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ORIGINAL

HEARINGS
ON
MILITARY POSTURE
AND
H.R. 5968
[H.R. 6030]
DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 1983

BEFORE THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
NINETY-SEVENTH CONGRESS
SECOND SESSION

Part 4 of 7 Parts

SEAPOWER AND STRATEGIC AND CRITICAL MATERIALS SUBCOMMITTEE
TITLE I

HEARINGS HELD
MARCH 2, 3, 4, 10, 11, 17, AND 24, 1982

COMPLETED

[H.A.S.C. No. 97-33]

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U.S. GOVERNMENT PRINTING OFFICE
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SEAPOWER AND STRATEGIC AND CRITICAL MATERIALS SUBCOMMITTEE

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97TH CONGRESS
2D SESSION

H. R. 5968

To authorize appropriations for fiscal year 1983 for procurement, for research, development, test, and evaluation, and for operation and maintenance for the Armed Forces, to prescribe personnel strengths for the Armed Forces and for civilian personnel of the Department of Defense, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 25, 1982

Mr. PRICE (for himself and Mr. DICKINSON) (by request) introduced the following bill; which was referred to the Committee on Armed Services

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A BILL

To authorize appropriations for fiscal year 1983 for procurement, for research, development, test, and evaluation, and for operation and maintenance for the Armed Forces, to prescribe personnel strengths for the Armed Forces and for civilian personnel of the Department of Defense, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Department of Defense Authorization Act, 1983".

TITLE I—PROCUREMENT

AUTHORIZATION OF APPROPRIATIONS

SEC. 101. Funds are hereby authorized to be appropriated for fiscal year 1983 for the use of the Armed Forces of the United States for procurement in amounts as follows:

ARMY

For the Army: Aircraft: $2,745,914,000; Missiles: $2,846,000,000; Weapons and tracked combat vehicles: $5,030,685,000; Ammunition: $2,633,384,000; Other procurement: $4,567,491,000.

NAVY

For the Navy: Aircraft (including aircraft for the Marine Corps): $11,582,300,000; Weapons (including missiles and torpedoes): $3,901,600,000; Naval vessels: $18,648,300,000; Other procurement: $3,970,156,000.

MARINE CORPS

For the Marine Corps: Procurement (including missiles, tracked combat vehicles, and other weapons): $2,300,700,000.

AIR FORCE

For the Air Force: Aircraft: $17,756,700,000 of which $186,100,000 is for the United States contribution of its fiscal year 1983 share of the cost of the acquisition by the North Atlantic Treaty Organization of the Airborne Early Warning and Control System; Missiles: $6,827,900,000; Other procurement: $5,845,200,000.

DEFENSE AGENCIES

For the Defense agencies: For procurement: $890,284,000.

CERTAIN AUTHORITY PROVIDED SECRETARY OF DEFENSE IN CONNECTION WITH THE NATO AIRBORNE WARNING AND CONTROL SYSTEM (AWACS) PROGRAM

SEC. 103. Section 104 of the Department of Defense Authorization Act, 1980 (Public Law 96–107, 93 Stat. 804), is amended by striking out "fiscal year 1980" both places it appears and inserting in lieu thereof "fiscal year 1983".

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HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SEAPOWER AND STRATEGIC AND
CRITICAL MATERIALS SUBCOMMITTEE,
Washington, D.C., Tuesday, March 2, 1982.

[The Subcommittee on Seapower and Strategic and Critical Materials met in closed session to receive a highly classified briefing on Soviet naval developments by Rear Adm. Sumner Shapiro, USN, Director of Naval Intelligence. Without objection, the unclassified statement of Rear Adm. Shapiro was submitted for the record and follows:]

WRITTEN STATEMENT OF REAR ADM. SUMNER SHAPIRO, USN, DIRECTOR OF NAVAL INTELLIGENCE

DNI POSTURE STATEMENT

Thank you for the opportunity to appear before you again. It is always a pleasure and a privilege to discuss Soviet naval developments with you. To someone who has spent much of his career devoted to that subject, it is gratifying to find people like yourselves, who not only have an appreciation for the growing Soviet naval threat and the impact it can have on our national well-being, but, most importantly, are prepared to do something about it.

The last time I appeared before you, I noted the progress made by the Soviets toward their goal of a truly balanced ocean-going fleet. I concluded then that:

The evidence is most persuasive that—notwithstanding the severe economic problems they face now and in the coming years—the Soviet leadership has elected to make a major capital investment in building and maintaining a Navy and Merchant Marine that can project Soviet influence throughout the world. This maritime power represents a direct and growing challenge to the economic, political and strategic interests of the United States and our Allies.

As I look back over the intervening year, I find no reason to believe the Soviets have wavered from that goal. Quite the contrary. All the evidence—their weapons developmental efforts, their building programs, and the expanding scope of their operations in 1981—reinforces our earlier conclusions as to their maritime ambitions. There can be little doubt that, despite severe and growing economic problems within the Warsaw Pact, Fleet Admiral Gorshkov continues to receive substantial support for the balanced fleet he seeks to create. With each passing year, it becomes more evident that not only is this an achievable goal, but that it is just over the horizon and closing fast.

The reasons are fairly obvious. Notwithstanding the fact that the Soviet Union is primarily a land power, many of its critical interests are overseas. Theirs is a very ambitious and aggressive foreign policy that seeks to extend Soviet economic and political influence in many strategic areas of the world, both directly and indirectly through surrogates such as Cuba, Libya, Vietnam and Ethiopia. They would hope to achieve their foreign policy goals by means short of war, and it is clear they visualize Soviet seapower—naval and merchant—as an important instrument for neutralizing or replacing U.S. influence, sowing doubt and creating dissension among our allies, and jeopardizing our economic future by restricting our access to world markets and vital raw materials. If necessary, however, they are also prepared to fight across the full spectrum of limited and general war scenarios, including an all-out nuclear exchange which they hope to survive and win. In all such war scenarios, the Soviet Navy plays an increasingly important role. The type of navy they are building is designed with these various contingencies and missions in mind. Let us look then at the evidence for the year 1981, to see how they are progressing.

With regard to naval construction, 1981 was somewhat less impressive than 1980, when 6 new classes or submarines and major surface combatants were produced. From this standpoint, 1981 can be characterised as a period in which the Soviets were catching their breath following a spectacular year. I expect them to pick up the pace again this year, including the first unit of another large class of cruisers.

Of course, ship production figures don't tell the whole story. During 1981, the first units of the ship classes introduced in 1980 completed initial sea trials and entered the active fleet. All are now in series production. Even more importantly, significant progress was made in the testing and evaluation of new naval missile systems such as the SS-NX-20 SLBM for the *Typhoon* submarine and new cruise missiles. In short, 1981 was a year of continued momentum and important advances in the growth of Soviet naval warfighting capabilities.

Let me describe some of the milestones in the principal new classes of Soviet warships and submarines and the weapons systems they will carry.

The Soviets will soon launch the fourth and probably final *Kiev*-class carrier, to add to their increasingly powerful major combatant force. The third ship of this class, the *Novorossiysk*, has just commenced sea trails. When these units join *Kiev* and *Minsk* in the fleet, they will further expand Soviet capabilities for task group operations both on the high seas and littoral waters.

Moreover, there are continuing indications the Soviets intend to build a modern conventional take-off and landing aircraft carrier. Some evidence leads us to believe that work has already begun on such a program. A 50,000 to 70,000 ton, probably nulcear powered, carrier is expected to be operational by the end of the decade.

The cruiser *Kirov*, the Soviets' first nuclear-powered surface warship, and at around 28,000 tons the largest non-aviation warship built by any nation since World War II, completed sea trials in 1981, during which most of its weapons and other systems were successfully tested and evaluated. The second ship of this class was launched last year and is currently fitting-out. Sea trials will probably occur in 1983.

The primary weapon systems of *Kirov* are new-generation, highly-sophisticated long range antiship and surface-to-air missiles as well as modern ASW weaponry. *Kirov's* SS-N-19 anti-ship cruise missiles (she carriers 20) are stored and fired from below-decks out to a range of more than 240 nm. Its SA-N-6 surface-to-air missiles are likewise stored and vertically launched from below-decks in rapid-fire succession from 12 launchers controlled by highly capable fire control radars. *Kirov* also carries the first reloadable SS-N-14 ASW system, as well as new bow mounted and variable depth sonars. *Kirov* will significantly improve Soviet fleet defenses against attack from Western aircraft or missiles and adds greatly to their capabilities to strike Western ships. This impressive ship combines in one multipurpose platform the latest Soviet technology in air defense, antiship strike, ASW and command and control.

In 1981, the Soviets also completed initial sea trials of the new *Sovermennyy* guided missile destroyer. *Sovremennyy's* two twin 130-mm gun mounts are the largest naval guns built into a Soviet ship since the late 1950s, and a new antiship cruise missile is being installed. *Sovremennyy* will be fully capable of supporting amphibious assaults and generally opposing Western surface forces in all ocean areas. Notably, it is the first major Soviet combatant since 1970 built without significant ASW weaponry. The second ship of this class is undergoing sea trials. The class is in series production.

The first of the *Udaloy* class guided missile destroyers also completed initial sea trials last year and transferred to the Northern Fleet. The second ship of this class is undergoing sea trials. Series production continues. Primarily an ASW ship, *Udaloy* appears designed to succeed previous similar classes as the main ASW platform within an integrated Soviet task force. *Udaloy* carries the new Helix ASW helicopter, which could significantly improve Soviet Tactical ASW capabilities.

Finally in 1981, the newest major combatant class, the *Black-Com I* guided missile cruiser, neared completion as it underwent the final stages of fitting out. It will probably commence sea trials this year. Series production of this class is ongoing. Conventionally powered, about half the tonnage of *Kirov*, it incorporates similar anti-air warfare weapons and sensors. It also carries long-range cruise missiles, the SS-N-12, with a range of about 300 nm. Like *Kirov*, *Black-Com I* will probably function as a command ship, in addition to adding enhanced air defense and surface strike capabilities to a Soviet battle group.

It is a most impressive surface ship construction program the Soviets have undertaken. Enjoying at least equal priority, and no less impressive, is their submarine building program.

In 1981, the Soviets completed initial sea trials of the *Typhoon* SSBN, and there were several successful launches of its missile system, the Mirv-ed SS-NX-20. We expect *Typhoon* production to continue through this decade. Like earlier Delta class SSBNs which continue to roll off the production line, *Typhoon* will be capable of firing its missiles and reaching most targets in the continental United States without leaving port or the sanctuary of nearby home waters. The advent of *Typhoon* represents a major addition to the Soviets' strategic nuclear arsenal.

Similarly, the appearance of the very large *Oscar* class cruise missile submarine, the first of which began operating in 1981, foreshadows a heightened threat to surface forces in coming years. We expect the Soviets to enter series production of *Oscar*. This SSGN carries 24 long-range SS-N-19 cruise missiles, the same system found on the *Kirov* nuclear-powered cruiser. *Oscar's* missiles can be launched while submerged and are capable of hitting targets more than 240 nm away. This missile system is now operational. *Oscar* will, in our judgment, constitute a very potent threat to Allied ships on the high seas and a determined answer to any effort by surface ships to enter Soviet home waters.

Last year, the Soviets added another *Alfa* class nuclear attack submarine to those already operational in the Northern Fleet. *Alfa* is the fastest submarine in operation and has a titanium alloy hull, giving it the potential to operate deeper than any other attack submarine. We expect construction of the *Alfa* class to continue.

Construction of the Soviets' *Victor* class nuclear attack submarine also continues.

In sum, Moscow's major warship and submarine construction programs in 1981 were maintained at a robust rate. Simultaneously, the Soviet Navy also expanded other components of its surface and aviation forces.

The Soviets continued to upgrade their growing amphibious force in 1981. The second of the *Ivan Rogov* class large amphibious assault ships is nearing launch and we expect completion during 1983. *Rogov* can carry a battalion landing team of over 500 men, two to three LEBED air cushion vehicles, and a combination of four Hormone C utility helicopters and/or the amphibious assault version of the new Helix helicopter.

Also, the Soviets took delivery last year of the first of the new series of *Ropucha*-class tank landing ships, with another three under construction in a Polish shipyard.

Combined with the increasing capability for naval gunfire support from its new surface ships and improved underway replenishment and sea-based tactical air, the new amphibious ships represent a commitment to improve the Soviet Navy's ability to land troops and equipment at distant trouble spots.

Enhancing this ability further is the ever growing Soviet merchant fleet, which now includes over 40 sophisticated roll on-roll off ships particularly well-suited for amphibious landing operations, and some 600 extended range, high speed, dry cargo ships with booms capable of lifting armored vehicles in an amphibious support role. Many Soviet merchant ships are crewed by naval reservists, equipped with extensive naval related communications facilities, and incorporate military related design features such as damage control centers, armoured cableways, CBR protection, and IFF systems. The Soviet merchant fleet is clearly "on call" for rapid response military duties. This aspect of Soviet seapower continues to expand both quantitatively and qualitatively.

Soviet Naval Aviation in 1981 continued to receive new Backfire bombers. These modern aircraft materially extend the range and scope of Soviet capabilities to strike surface forces, mine and bomb ports and harbors, and provide support to theater operations. The Soviet Navy's average yearly allocation of Backfires is about the same number received by Soviet air forces, underscoring the importance Moscow accords to its naval air missions.

Overall then, the shipbuilding effort by the end of 1981 has resulted in a Soviet Navy with 3 *Kiev* carriers, approximately 275 other major surface combatants, and more than 375 submarines. This does not include hundreds of additional minor surface units intended primarily for patrolling and defending the Soviet Union's littoral. We expect the number of surface ships to remain relatively stable over the next decade and the number of submarines to decrease somewhat as new and more technically sophisticated units replace older ones.

Just as impressive as the ships produced are the immense capital investments, the Soviets continue to make in their naval shipyards. Five major yards build submarines, eight others build surface combatants, and several lesser yards produce auxiliaries and minor combatants. The Soviets continued in 1981 to modernize and upgrade facilities and equipment at these yards. In stark contrast to their many outdated civilian plants, Soviet shipyards use advanced computer-controlled manufacturing equipment and other highly sophisticated construction techniques.

To give you an idea of the scale of their shipbuilding ambitions, consider the Severodvinsk shipyard in the Northern Fleet area. The largest shipyard in the world, it has accounted for half of all Soviet nuclear submarines built in the last dozen years, including the New *Oscar* and *Typhoon*. Superimposed on downtown Washington, the Severodvinsk shipyard would stretch from here (the Capitol) to Memorial Bridge. And remember, Severodvinsk is only one of 13 major submarine and surface combatant shipyards.

I emphasize this because it underscores vividly the effort the Soviets are making to build and maintain a balanced, ocean-going Navy. In a civilian economy starved for capital investment and faced with other growing domestic economic dilemmas, the Kremlin has lavished funds on warship-building shipyards, coupled with huge operating expenses to keep these underused facilities open.

While 1981 was an important year for ship construction, it was also important for ship operations. The Soviets again showed their readiness to deploy major naval forces to specific global trouble spots, and generally to project naval power with substantial forces continuously deployed in the Mediterranean and Indian Ocean areas.

During the year, "State interests" called on the Soviet Navy last spring to send a cruiser and two frigates to the Caribbean, the first such deployment in nearly two years. In July, while the Mideast was still unusually tense over Syrian missiles in Lebanon, the Soviet Navy conducted a joint amphibious exercise with the Syrian Navy in the Eastern Mediterranean. In August and September, the Soviets sent a cruiser, two frigates, and at least one submarine on a rare deployment along the U.S. west coast and through the Hawaiian Islands, as a vivid demonstration of the global reach of their maritime power.

Soviet naval aircraft made their first operational deployment to Libya in 1981. This was more than coincidental with heightened Libyan-U.S. tensions during the year. In November, the Soviets sent a cruiser and frigate to the Seychelle Islands, at the request of its President, ostensibly to "provide anti-aircraft protection" following an abortive coup attempt against the Seychelles government.

Probably most dramatic last year, however, was the large amphibious exercise in the eastern Baltic, conducted within the context of a major joint-forces exercise named Zapad '81. Involving thousands of troops and many ships and landing craft, this was the largest amphibious exercise ever observed in the Soviet Union.

Politically, it was a not-too-subtle demonstration to the Polish people of Soviet military strength and resolve. It received heavy coverage on Warsaw Pact television, and included a major amphibious landing at a site only a few miles from Poland, along with numerous set-piece demonstrations to impress foreign observes. It was a stark reminder that the Soviet Union, which has intervened in Eastern Europe before, can do so again at will.

Militarily, Zapad '81 assembled the largest grouping of warships in the Baltic since World War II, and for the first time included ships from all four Soviet fleets. Major units included the aircraft carrier *Kiev*, the helicopter cruiser *Leningrad*, and the amphibious assault ship *Ivan Rogov*. The exercise also featured extensive use of air-cushioned landing vehicles, the application of carrier-based VTOL aircraft, and the use of roll-on/roll-off merchant ships in the landings. We believe that one of the purposes of this unusual gathering of forces was to test planning concepts for amphibious operations in distant areas.

As the Soviet Navy sustained its long-range deployments, it continued to make use of overseas facilities in numerous Third World countries. During 1981, the periodic deployment of Soviet reconnaissance aircraft to Cuba and Angola increased markedly and in Cuba may become continuous. In Africa, Luanda, Angola, replaced Conakry, Guinea, as the main support facility for the Soviets' West African naval contingent.

Their principal overseas facilities, however, are in Ethiopia, South Yemen and Vietnam. Soviet naval reconnaissance and ASW aircraft deployed to fields in Ethiopia and Aden throughout 1981 and regularly flew surveillance missions against U.S. and allied naval forces in the Indian Ocean. The Soviets maintain a nearly continuous naval presence at Dahalak Island, Ethiopia. It is here they perform the more complex maintenance required to sustain extended Indian Ocean deployments. Aden also serves as a location for less involved maintenance and crew rest visits by Soviet ships, but more importantly is the site of facilities for enhancing overall coordination of Soviet Indian Ocean naval operations.

Another facility which they use regularly is at Cam Ranh Bay, Vietnam. This U.S.-built complex permits the Soviet Navy to operate combatants, auxiliaries, merchant ships, and reconnaissance and ASW aircraft continuously. Soviet naval forces and aircraft operating from this strategic location are in a position to threaten the vital sea lanes to the Indian Ocean, as well as U.S. forces in the Philippines and those operating in the South China Sea. The Soviets enjoy near-autonomy at Cam Ranh. Because of the Chinese threat to Vietnam, Hanoi leaders seem willing to accept this large presence, which they must regard as a valuable expression of support. It has served Soviet interests well; most vividly when the carrier *Minsk* deployed from Cam Ranh Bay to the Gulf of Thailand in late 1980 to pressure Bangkok on the Kampuchean issue. Moreover, control over this former U.S. base is a strong symbol to other countries of Soviet ascendency in the region.

An additional important factor in the Soviet power projection equation is the delivery of arms to Third World clients. Such deliveries were up slightly in 1981 from the previous year and reflected some interesting changes in arms delivery priorities. Cuba apparently replaced Vietnam as the number one recipient of Soviet arms; Libya, Iraq, and Syria probably also moved ahead of Vietnam. The Soviets continued to deliver very sophisticated naval equipment to selected clients. For example, in 1981 Cuba, Libya, Ethiopia and South Yemen all received attack boats armed with anti-ship cruise missiles. Cuba also received a new construction frigate and Libya obtained additional diesel submarines. The expanding naval capabilities of these strategically positioned Soviet client states is a disturbing trend which is likely to continue, if not acccelerate.

These Soviet naval developments which I have described have several important implications for the United States.

On the strategic front, the steady modernization and improvement of the Soviet ballistic missile submarine force means that not only can more targets throughout the continental United States be covered continuously by Soviet submarine-launched ballistic missiles, but that the launching platforms, *Delta* and *Typhoon* SSBNs, are becoming less vulnerable to detection and neutralization. These units are replacing older *Yankee* class SSBNs which must make long transits to reach station is the Northwest Atlantic and Northeast Pacific. The increased range of their missiles allows these new Soviet submarines to launch from the relative safety of home waters and even make use of waters under the Arctic ice cap. Also, Mirved SLBMs enable the Soviets to move a greater percentage of their strategic capability to sea.

Equally significant have been the improving sea control capabilities of surface and submarine forces to protect both the homeland and strategic missile submarines in adjacent waters. Operating out of four major fleet areas, the Soviets strive to control the Atlantic north of the Greenland/Iceland/United Kingdom gap, the Baltic, the Black Sea, the Sea of Japan, the Sea of Okhotsk, and perhaps even the Eastern Mediterranean. In a war, they would hope to maintain control in these and adjacent areas further to seaward and to deny freedom of operation to enemy navies.

This penchant for sea control of nearby waters is not new for the Soviet Navy. What is increasingly apparent, however, is their growing inclination to take the battle to more distant seas and shores. The numbers and quality of their surface warships and amphibious ships exceed the Soviets' needs to defend the homeland.

Plainly, the Soviet naval threat in a general war is formidable. I also think we should be equally concerned about the growing naval threat in a limited war or even in peacetime.

The Soviets have taken to heart Oliver Cromwell's axiom: "A man-of-war is the best ambassador." In the past quarter-century, the Soviet Navy has become an increasingly important agent of Soviet diplomacy. Their expanding surface fleet enabled the Soviets to move from being a passive spectator during the 1956 Suez crisis, to a deterrent force in the 1967 and 1973 Arab-Israeli wars, to a more active participant in the 1976 Angolan and the 1977–78 Ethiopia-Somalian conflicts. Free to roam international waters, the new generations of large Soviet warships with sophisticated weapon systems are a flexible, tangible, and convincing instrument of state policy.

Besides its enhanced political power projection capabilities and influence, the Soviet Navy poses a growing threat to the free flow of Western trade. In wartime, this increasingly capable array of naval and air forces could jeopardize military supplies and material in our most vital sea lines of communication. The Soviets are well aware of our dependence on the sea for survival—that we are an island nation, with sources of critical materials and our allies across large bodies of water. As the Soviets consider more seriously the possibility of a prolonged NATO-Warsaw Pact conflict limited to conventional warfare, they have emphasized this interdiction role more.

Moreover, we must regard this capability as a potential threat to Western economies in both peacetime and during third world crises. Consider our own vulnerability to disruptions. Twice in the last decade, we have seen the effects of relatively modest disruptions in imported oil supplies. A more decisive event could be devastating. For example, a successful naval closure of the Strait of Hormuz—in connection, say, with a Soviet military intervention in Iran—would shut off 15 million barrels of oil a day to the West, representing over 60 percent of U.S., Western European, and Japanese imports and causing a yearly loss of nearly a half-trillion dollars from our gross national product and over one-and-a-half trillion dollars from combined Western economies.

Disruption of sea lines would cause the loss of other important raw materials. The U.S. Commerce Department has estimated that we depend on foreign sources for all or part of 69 of the 72 raw materials vital to our high-technology society. For example, titanium is essential to our aerospace industry and during a war available supplies would be used up rapidly. Yet fully 100 percent of our titanium is imported, mostly from Japan and Australia, and thereby vulnerable to disruption by the Soviet Navy. Other such vulnerable minerals include bauxite, tin, zinc, chromium, nickel, and cobalt.

In a world of such intricate trade and economic interdependence, we must consider the possibility that the Soviet Navy will become an instrument of disruption. It could help persuade or force Third World countries to cut off supplies to the West, promote local wars that shut down resource development projects that provide us minerals, help divide us from our allies as we scramble for new supplies, or even directly impose naval blockades or land forces ashore. These actions may seem implausible today, but may not be tomorrow.

As I stated at the outset, the USSR is aggressively pursuing an ambitious foreign policy that seeks to extend Soviet economic and political influence to many areas of the world critically important to the U.S. and our allies. The Soviets would hope to achieve these expansionist aims by means short of war, and in this respect they are engaging more and more in what might be described as forceful naval diplomacy. At the same time, they prepare assiduously to fight across the full spectrum of wartime scenarios, including what they view as the last resort—a confrontation between NATO and the Warsaw Pact that escalates to an all-out nuclear exchange. Their plans to fight, survive and win such a confrontation envision an increasingly important role for the Soviet Navy.

The Navy that Gorshkov is building is designed with all these contingencies and missions in mind—from the peacetime employment of naval forces as an instrument of diplomacy, to reliance on submarine-launched ballistic missiles as a critical element of their war-winning nuclear strategy. In looking back over the past year, it is clear the Soviet Navy has taken one more step toward achieving this goal of a balanced, ocean-going fleet. Apparently unfettered by growing economic problems within the Warsaw Pact, the Soviet Navy continues to sustain the unrelenting momentum of new ship and missile programs aimed at creating a force capable of responding to the full range of wartime and peacetime tasks. We have no reason to expect this momentum to falter. The trends of the past and the evidence at hand suggest that this momentum will continue and perhaps even grow.

The implications of this unrelenting buildup of Soviet seapower should be obvious. The Soviet Navy even today presents a clear and present threat to the vital economic, political and strategic interests of the U.S. and our allies. Today that Navy is deployed worldwide, posing a direct challenge to U.S. prestige and influence in areas critical to our national survival. It is gearing up to play an increasingly important role in Soviet defense strategy. It represents a very real and growing challenge that we cannot afford to ignore.

NAVY FORCE LEVELS

House of Representatives,
Committee on Armed Services,
Seapower and Strategic and
Critical Materials Subcommittee,
Washington, D.C., Wednesday, March 3, 1982.

The subcommittee met, pursuant to call, at 10 a.m., in room 2120, Rayburn House Office Building, Hon. Charles E. Bennett (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. CHARLES E. BENNETT, A REPRESENTATIVE FROM FLORIDA, CHAIRMAN, SEAPOWER AND STRATEGIC AND CRITICAL MATERIALS SUBCOMMITTEE

Mr. **Bennett.** This morning begins our hearings on the fiscal year 1983 defense authorization request. We have a very busy schedule of hearings before us this month in preparation for subcommittee markup on March 30 and possibly 31. By maintaining this schedule the full committee will be in a position to complete markup before the Easter district work period. The schedule that we have set out for ourselves is all the more difficult because of the late transmission of the President's budget this year and delays in receipt of the detailed description of the budget request. Nonetheless, it is important that we stay with our schedule, and I expect that the Navy will work with the committee to see that we get the data we need for our review of the budget request.

As a result of changes enacted last year, the committee will begin an annual review of the Other Procurement accounts. The Seapower Subcommittee will consider the ship-related portions of the "Other Procurement, Navy" account which is used to buy equipment and ordnance for installation on ships during their operating lifetime.

Members of the subcommittee have been provided with a schedule of hearings. These hearings were planned to provide the members of the subcommittee with first, an overview of U.S. Naval Force planning and the national objectives that the forces support; second, a detailed presentation of each of the major warfare areas and the weapons programs proposed in the fiscal year 1983 budget; third, a detailed presentation of the weapons procurement and the other procurement accounts.

In addition, a joint hearing has been scheduled with the Readiness Subcommittee to followup on the hearings we held last year on the ship overhaul process and to assess the progress that has been achieved in the past year. That hearing will also address the

Navy's proposal to lease rather than purchase the T-AKX maritime pre-positioning ship.

A joint hearing is also scheduled with the Investigations Subcommittee. In that hearing we will review programs for sealift and the adequacy of existing Navy and civilian assets to meet sealift needs. We will also receive testimony on the planned merger of the Military Sealift Command and the Military Traffic Management Command.

This morning we welcome Vice Adm. C. A. H. Trost, Director, Navy Program Planning, to discuss force levels.

Mr. Spence, do you have a statement at this time?

Mr. SPENCE. I would just submit my statement for the record and we will get on with the testimony.

Mr. BENNETT. Without objection, that will be done.

We are very glad to have you here and you may proceed as you desire.

WRITTEN STATEMENT OF HON. FLOYD SPENCE, A REPRESENTATIVE FROM SOUTH CAROLINA

Thank you Mr. Chairman. I wholeheartedly concur with the program Chairman Bennett has laid out for the fiscal year 1983 hearings on Seapower.

I want to enjoin my colleagues not to lose sight of the objectives set by this administration for regeneration of our naval forces. In the past, when presented with underfunded naval shipbuilding budgets we have said to witnesses, tell us what you really need for an effective shipbuilding program. I believe we have for once gotten an adequately funded shipbuilding budget before us. This fiscal year 1983 budget request is the first step in achieving an effective, stable naval shipbuilding program now and for the future.

We must be wary of the voices that will say the Navy shipbuilding program is not too ambitious, too expensive and that it is unaffordable. Let me remind you that just a few months ago, in December 1981, the Congress passed the "Sense of the Congress Resolution on the Navy of the United States" which proclaims a Congressional commitment to a "larger and stronger American Navy."

The President's maritime policy recognizes the United States commitments.

The Navy's role in support of national commitments has substantially increased, not decreased. This reality of life these days is not likely to change in the future.

We must steadfastly get on with building the 600 ship Navy. Short term expediency in cost savings may in the long term cost us billions of dollars more. The two *Nimitz*-class, nuclear-powered carriers, the two Trident ballistic missile, nuclear-power submarines, and the three *Ticonderoga* class, AEGIS cruisers in this year's budget request are the backbone and the building blocks of the fleet of the future. The Navy needs these ships. We on this subcommittee must work diligently to get that message across to our colleagues and the American people. We must not be disuaded from the direction America must take.

I also want to alert my colleagues to what I believe is one of the most important shipbuilding issues that Congress will address this year; namely the Navy's need to begin to replace a large portion of its aging cruiser/destroyer fleet. Although the Research and Development Subcommittee has primary jurisdiction over the matter this year, the interests of the Seapower Subcommittee will be intimately effected by and plans adopted for warship replacement.

I refer to the so-called DDG-X program, recently named the DDG-51. The Navy plans to acquire over 60 of these ships. The fact is this figure could reach about 100, depending upon the real life-cycle worthiness of some vessels currently in the inventory.

The fundamental issue concerning the DDG-51 is whether or not it will be constructed to take advantage of current advances in technology which provide for modular construction of warships and their weapons systems so that through the lifetime of the ship the weapons and sensor systems can be updated with minimum overhaul time and disruption to the ship's basic construction. Herein lies the potential for substantial cost savings in outfitting and overhaul evolutions.

This modularity concept reaches its fullest potential by establishing construction standards called ships Systems Engineering Standards or SSES. It is an exciting idea, not necessarily new, but whose time has come. SSES can revolutionize shipbuilding as we know it. The proper marriage of SSES and the forthcoming DDG-51 series ships, or a varient of these ships, should evoke the special attention of Congress in all future shipbuilding programs.

I believe we are going to have a lively session ahead of us in support of a progressive Navy shipbuilding budget. Our task will not be easy.

Again, thank you Mr. Chairman.

BIOGRAPHICAL SKETCH OF VICE ADM. CARLISLE A. H. TROST

Carlisle Albert Herman Trost was born in Valmeyer, Illinois on April 24, 1930. He attended Washington University, St. Louis, for one year prior to entering the U.S. Naval Academy. He graduated first in his class on 5 June, 1953.

Following graduation from the Naval Academy, he reported to U.S.S. *Robert A. Owens* (DD-827) and in December 1954, was detached to attend Submarine School, New London, Connecticut. Upon completion of submarine training, again first in his class, he reported to U.S.S. *Sirago* (SS-485). From January to June 1957 he attended the Advanced Nuclear Power course at the Submarine Base, New London, Connecticut, which he completed first in his class. He had further training at the Naval Nuclear Power Training Unit, Idaho Falls, Idaho.

He reported to U.S.S. *Swordfish* (SSN-579) in November 1957 and qualified in 1959 to command submarines. Detached from *Swordfish* in 1960, he studied German at the Army Language School, Monterey, California, then had temporary duty in the Bureau of Naval Personnel, Washington, D.C. In September 1960, he reported as an Olmstead Scholarship Student to the University of Freiburg, West Germany, where he studied political science and international relations until January 1962. The next month he became Executive Officer of U.S.S. *Scorpion* (SSN-589). He attended the Polaris Command course at the Fleet Anti-air Training Center, Dam Neck, Virginia from May to July 1963, after which he served as Executive Office of the Blue Crew of U.S.S. *Von Steuben* (SSBN-632). In 1965, he reported as Military Assistant to the Deputy Secretary of Defense, Washington, D.C.

In 1968, Vice Admiral Trost assumed command of the Blue Crew of U.S.S. *Sam Rayburn* (SSBN-635). In September 1969, he was detached for duty as Assistant Chief of Staff for Personnel and Administration on the staff of Commander Submarine Force, U.S. Atlantic Fleet. He reported in August 1970 as Executive Assistant and Naval Aide to the Under Secretary of the Navy, John W. Warner. When Mr. Warner became Secretary of the Navy in May 1972, he continued to serve as Executive Assistant and Naval Aide. He was selected for promotion to Rear Admiral in March 1973, and transferred to command Submarine Flotilla One, later Submarine Group Five. In 1974, he reported to the Bureau of Naval Personnel as the Assistant Chief for Officer Development and Distribution. In 1976, he was assigned to the Office of the Chief of Naval Operations as Director, Systems Analysis Division. On August 22, 1978 he was promoted to Vice Admiral and reported as Deputy Commander in Chief, U.S. Pacific Fleet. On completion of that assignment, he assumed command of the U.S. Seventh Fleet on 14 February, 1980. He assumed his present duties as Director, Navy Program Planning on 5 October, 1981.

In addition to the Distinguished Service Medal, the Legion of Merit with two gold stars, the Navy Achievement Medal and the Navy Unit Commendation Medal, he is entitled to wear the Navy Expeditionary Medal, the National Defense Service Medal with bronze star, the Navy Occupation Service Medal (European Clasp), the Antarctic Service Medal, the Humanitarian Service Medal and the Sea Service ribbon, as well as his awards from the governments of Japan and Korea.

Vice Admiral Trost is married to the former Pauline Haley of Cottage City, Maryland. They have four children: Carl Michael, Laura Lee, Steven Glen, and Kathleen Susan.

STATEMENT OF VICE ADM. C. A. H. TROST, U.S. NAVY, DIRECTOR, NAVY PROGRAM PLANNING, OFFICE OF THE CHIEF OF NAVAL OPERATIONS

Admiral TROST. Good morning, Mr. Chairman and members of the subcommittee. I am pleased to have the opportunity to be your lead witness in this year's series of hearings on naval force structure.

I would propose, with the chairman's concurrence, to submit my prepared statement for the record and summarize that statement with a brief oral summary, and with your indulgence use several viewgraphs to focus on some of the issues I feel we will be facing this year.

Mr. **Bennett**. So ordered.

Admiral **Trost**. I was especially pleased, as I just noted to Congressman Spence, at the change in attitude and environment since I last appeared before this subcommittee about 4 years ago. At that time there was considerable dialog in various quarters in Washington dealing with our Navy. That dialog then seemed to focus primarily on whether or not we needed a navy. We spent considerable effort justifying to Members of Congress and to the American public a requirement for a navy.

Perhaps the greatest change that I see now is that now we are focusing on what kind of navy we need to meet the Nation's requirements, how we meet those requirements, and when. I think this is a very healthy change.

I think there is no question that the requirement for a navy and for maritime superiority as a key element in our defense posture is now much more broadly understood. That makes our jobs easier and now we can focus on the issue at hand and get on with building the necessary strength which will permit us to do the job and carry out the mission we have been assigned.

You have heard in full committee from the Secretary of Defense and the Secretary of the Navy and Chief of Naval Operations, all of whom have set forth their views on the need for a strong maritime posture. It is that posture and the Navy force structure planning which leads to it which I would like to address in greater detail this morning.

I have viewgraphs and copies of these are before you. I will use the screen to my right.

TODAY'S FOCUS

The focus in the country today is clearly on our national priorities and the defense budget. Where does defense fit, and, is maritime superiority achievable under the programs which are being proposed in the budget that is before you for consideration now.

There is no question that maritime superiority, as I have already noted, is necessary to our ability to meet our national objectives. We must be able to prevail in any conflict. We do have, and depend on in this country, a forward strategy and ready military forces to defend both our economic and security interests.

I read in the last several days several articles which tend to focus on something called the fair share of defense as a portion of the national budget. I would hope that when people discuss fair share that they think of fair share as that which is necessary to meet minimum U.S. requirements as opposed to an arbitrary percentage or an arbitrary dollar limit.

Let me turn now to a very brief overview of the factors which influence our naval structure and our naval force planning.

OVERVIEW

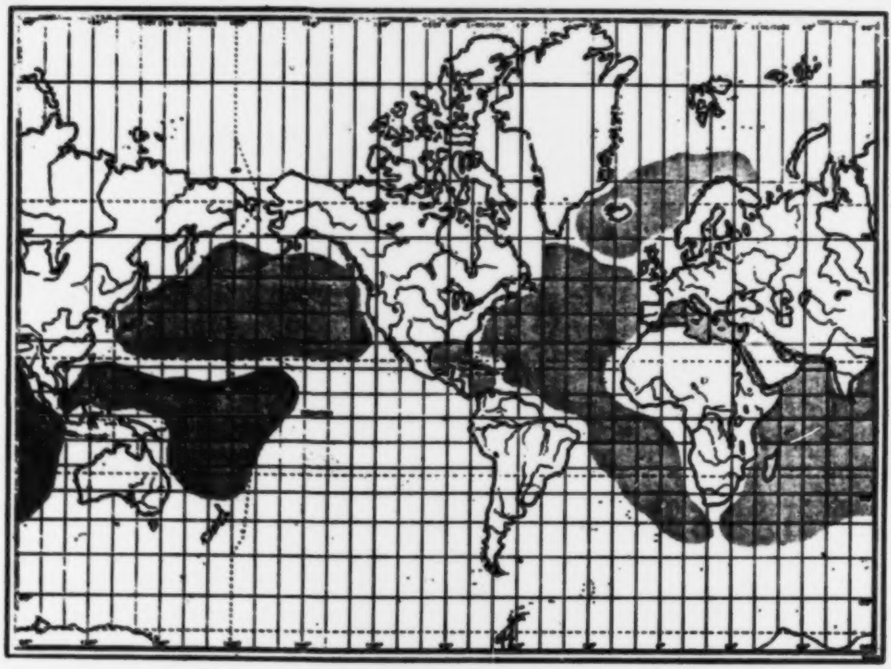
Clearly, our national objectives, our economic interdependence with the rest of the world, our dependence on raw materials from overseas sources and the need to counter any potential threat to our security, drive force planning for any military organization.

The global threat is real. You were introduced to it in this subcommittee yesterday, and I suspect that you share with us the importance of our need to be able to counter that threat.

I would like to address briefly as I go through my presentation the characteristics required of a navy to do this job, to discuss what we refer to as balance and strain. We have forces, and those forces must be ready. We look in the future to an increased force structure; but, we must recognize the constraints we face. We must recognize that a navy and naval equipment are capital intensive and they are equipments which will be with us for many years. We have to make the right choices when we make our decisions.

I will then focus on our force structure today, to clarify the base from which we start. Then I would like to address some of the issues that we see which I know are of interest to this subcommittee.

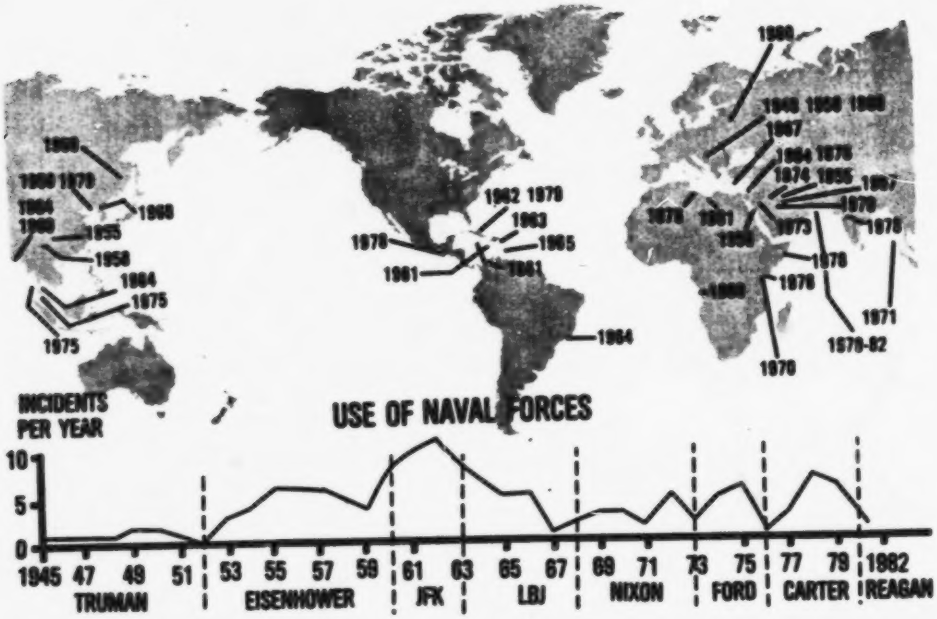
WORLD OCEAN AREAS WHERE CONTROL IS VITAL



I would just note very quickly in this next slide that the waterways and the world's oceans which are important to this country for either economic or security reasons—reasons of security to ourselves and our allies—are rather widespread and are depicted by the areas you see here. We have a big job: it is a global task, and a global challenge.

Microfilmed From
Best Available Copy

CRISIS POINTS, 1945 - 1982



Naval forces have clearly seen considerable use since the end of World War II. This viewgraph shows those areas in which naval forces have been used with regularity regardless of administration, regardless of political persuasion, as an instrument of national policy in carrying out U.S. interests.

What Kind of Navy?

The characteristics that we see necessary for a navy and the kind of navy we really need are shown in this slide. Clearly, we face not just a single or a simple task. We must provide a portion of the Nation's strategic nuclear deterrent and we must provide a portion which is clearly credible and can do the job in the event we are ever attacked. Let us hope that never happens.

We must be prepared to counter a worldwide threat posed by a Soviet military force and especially a Soviet Navy which has grown in the last 20 years from essentially a coastal defense-oriented organization to one which is a true blue-water force and can, in fact, operate, show the Soviet flag, influence others, and threaten security interest of ourselves and our allies on a worldwide basis.

We must be prepared for the most likely application of military force in the current environment, the ability to respond to so-called Third World contingencies which have occupied our military and our political leaders and our friends and allies in recent years. Finally, U.S. naval forces forward deployed worldwide—as a display of U.S. resolve—is a constant requirement.

I have stated a requirement for four various or varied types of force characteristics. But they are all embodied in the same force structure. We can't afford nor would we propose that we buy forces which have the ability to be tailored to each of these particular characteristics. The force structure we propose, the force structure which our country must have, must be one that can accommodate any task which is assigned.

MARITIME CAPABILITIES

We have seen a lot of discussion and a lot of arguments on maritime capability, focused frequently either on numbers of ships or types of ships or the quality of forces. We have prided ourselves in this country on our technological lead over any potential adversary, but we have seen, to our regret and concern, especially in this last year, that that technological lead has been whittled away both by the unintended as well as by intentional transfer of our technology to potential enemies. We have seen that those enemies take advantage not only by saving themselves money and effort, but of our technology to enhance their own capabilities.

Our focus as we structure our forces is on numbers, to a degree, because there is a minimum force level required to do the job. Our emphasis is also on quality. You cannot take on an enemy with sophisticated capabilities until you have the necessary mix of qualities to counter his force.

Our focus is also on readiness and sustainability of the forces we have now, as well as on those we hope to bring into our structure in the future.

What we have now or what we have at any given time is what we will have available should we be called upon to use our military forces in support of U.S. policy. The readiness of those forces is key to their capability, it is key to their initial success, it is key to American ability to stay and counter the threat as long as necessary to insure that our success is assured.

BUDGET CHOICES

Our budget choices are clear ones. We have to balance the readiness and sustainability needs of today's forces with the realization and understanding that we have to modernize existing forces from time to time to remain current with the evolving threat. We also have to balance such requirements with the need to put some resources into the forces structure, both to replace those ships that are retired as well as to increase our forces to the miniumun levels we consider necessary.

As all of you are more than casually aware, Navy ships are around for a long time. Nominal service life for a ship is 30 years. The nominal service life of one of our new aircraft carriers is 45 years and we are extending the service life of our remaining aircraft carriers through the service life extension program so they will be of utility to this country and effective for a 45-year period.

FUTURE WAR ENVIRONMENT

When we look ahead at what we need to do, we have to look at the future warfare environment. Let me touch briefly on some of the characteristics of that future environment that must be considered as we structure our forces.

First of all, if we look to the future—10 years from now is clearly of interest—10 years from now we can predict with a degree of exactness what our force posture will be because most of those ships are or will shortly be authorized. The enhancements will be those things we can do to further the capability of existing and already programed or authorized forces.

We have to look out to the year 2000, which is not even the midpoint in life for a ship like *Vinson*—the nuclear-powered aircraft carrier which will be commissioned later this month—which will become the 13th carrier on duty with the Navy. We look ahead to that timeframe and we recognize that the capabilities—which are offered by technological advances—will be then greatly improved, not just for us, but also for our enemies.

We recognize that battle space—because of an ability to use our systems worldwide—will be greatly expanded. We recognize that when one possesses a limited force, one must be able to coordinate that force in far better fashion than we are able to today.

We recognize that we have to improve both the reaction time and the firepower capabilities of the forces we have now and those we plan. We recognize that we have to reduce shortfalls in certain types of weapons systems and inventories so that we can do the job and stay on the job as long as is necessary.

We recognize also that our high-value forces are at risk and are likely to be targeted by our most likely potential enemy, and that we must, therefore, broaden our offensive power across the entire range of our forces.

We intend to do that by enhancing both the sensor and weapons systems capabilities of those forces.

THE KIND OF NAVY WE HAVE

	NO. SHIPS		NO. AIRCRAFT	
	ACTIVE	RESERVE	ACTIVE	RESERVE
BALLISTIC MISSILE FORCE	38			
33 SSBN'S				
5 SUPPORT SHIPS				
BATTLE GROUP FORCES	124		1350	152
13 CARRIERS WITH 13 AIRWINGS				
27 CRUISERS, 84 DESTROYERS				
ATTACK SUBMARINE FORCE	96			
5 DIESEL, 91 NUCLEAR SUBS				
AMPHIBIOUS WARFARE FORCES	59	6	1120	215
AMPHIBIOUS LIFT				
3 MARINE DIVISIONS (+1 RESERVE DIV)				
3 MARINE AIRWINGS (+1 RESERVE WING)				
CONVOY ESCORT, PATROL FORCE	88	5	320	115
78 FRIGATES WITH LAMPS (5 NRF DESTROYER/FRIGATES)				
24 MARITIME PATROL SQDN (+13 NRF SQDN)				
6 PATROL COMBATANT				
MINE WARFARE FORCE	3		18	
3 MINESWEEPERS				
MOBILE LOGISTICS & COMBAT SUPPORT	70		53	
TRAINING, UTILITY, SPECIAL ACFT			1370	134
SUBTOTAL	478	11	4231	616
NAVAL FLEET AUXILIARY FORCE	25			
TOTAL	514		4847	

I would like to turn now to the Navy force stucture today. This particular slide, if it can be seen clearly, depicts the force structure which we have, and when I say today, the date to which those totals apply is the end of the current fiscal year, fiscal year 1982. Let me just note the key forces. In the strategic area, we will, by the end of this fical year, have in operation our 31 Poseiden submarines in addition to *Ohio,* recently commissioned and now operating, and *Michigan* the second of the Trident-class submarines.

Our battle group forces will consist of 13 deployable aircraft carriers and another carrier which is in SLEP. Two of those aircraft carriers are *Midway* and *Coral Sea,* smaller decks, but still potent units of our force.

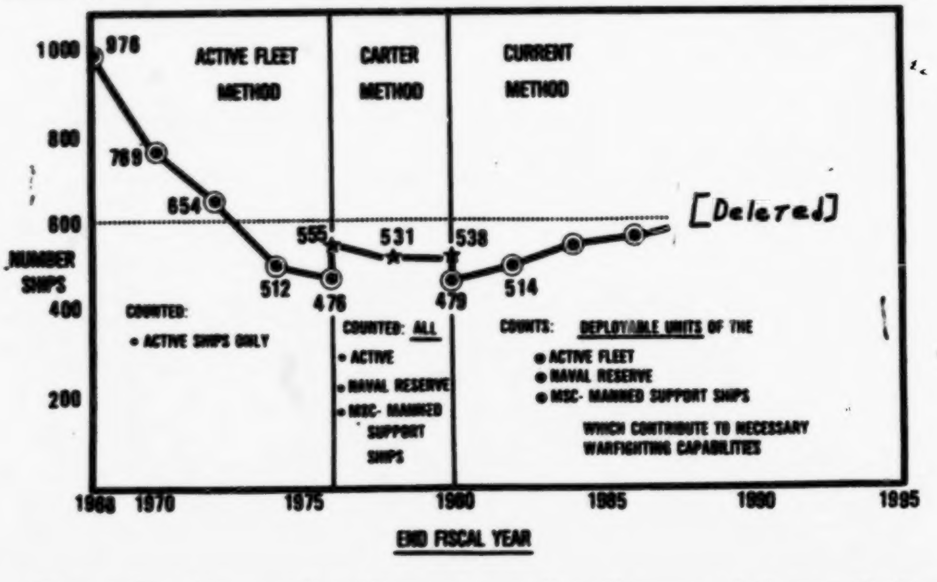
The nuclear attack sub force will reach a level of 91 submarines. Our amphibious warfare forces will remain at about their current level. We will be improving in the next several years in each of these categories, however.

I would like to point out specifically that 11 naval reserve ships are included in the 514 ship total, 6 of which are amphibious, and 5 are destroyer or frigate class ships. Also in that total, which represents deployable ships available to meet the missions and taskings of the National Command Authority, are 25 ships known as the Naval Fleet Auxiliary Force. These are Military Sealift Command operated and manned forces which provide direct support to our battle groups and are in increasingly important capability in our sustainability of forces at sea.

I draw your attention to this number because I want to clarify the ship count which has caused some concern on the Hill. We are including in today's count those ships which can go to sea and deploy to forward locations in satisfactory material condition and with needed war-fighting capabilities. The Navy owns and operates, on average, about 50 more ships than you see listed here. But they include, as an example, a research submarine, *Dolphin*, which has no torpedo tubes and is not intended as a combatant. They include other logistics support ships; they include those ships still in the Naval Reserve Force which are no longer deployable because of age material condition, and outmoded combatant systems and capabilities. Most of those ships will be phased out in the next several years.

What we hope to portray is an honest assessment of what capability we really have and what is ready to deploy to forward areas.

NAVY FLEET SHIP COUNT



This next viewgraph will perphaps dispell some of the confusion. The red is a bit hard to see, but there have been three ways to count, recently the so-called Active Fleet method, counted only Active ships and totaled about a 1,000 ships back in the late 1960's, and then began decreasing, as you see, end in the 1976 timeframe at a level of 476. At that time, there was a change directed in the way we counted ships. We then began to count all Active ships, all Naval Reserve ships, and all Military Sealift manned support ships.

The current method of counting is what I would refer to as the honest, realistic method. It counts deployable units of all of those three categories—Active ships, Naval Reserve Force, and the Military Sealift manned support ships which contribute directly to deployable war fighting capabilities of our overall force.

NAVAL FORCES OF THE 1990's—WHAT CHANGE IS POSSIBLE

Technological/Industrial considerations:
Technological opportunities/realities; industrial base; and long lead times.
Political support:
OSD; OMB/White House; and Congress.
Financial considerations:
Individual system affordability vs threat defeat contribution; cost growth; cost of ownership bill for expanded shipbuilding plan; and top line pressure/erosion.

As we look ahead to the forces of the 1990's, we have to look at what change is possible and what bounds on change we face. We clearly are bounded by technological opportunities and realities. We face the challenge of taking advantage of technology and yet not being overwhelmed by it. I think it is fair to say that each time we pushed systems development to the edge of what is achievable, we have run into costly systems that have caused problems when they have been introduced in the fleet. So our thrust is and must be on doing that which is reasonably obtainable.

We also have to recognize that lead times for the more complex weapons systems in today's fleet—ships and aircraft—are long, in part because there are certain components that take a long time to build, in part because of the strategic materials that are used, and in part because of the complexity of today's systems and the demands on them.

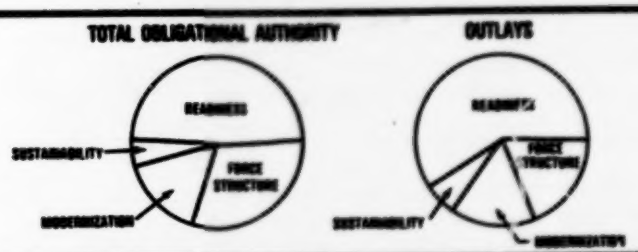
We also have to recognize that there has been in this past year, and we hope it will continue in this year, strong defense support both in the administration and in the Congress, reflecting the general philosophy of the American public for a strong national defense effort.

We recognize also that we are cost constrained. That will be true no matter the size of the budget. We have to insure that individual systems are affordable. The OSD, on the slide, refers to the Office of Secretary of Defense and political support being that of the administration support in the Office of Management and Budget. I should have gotten totally away from acronyms but we have a tendency to use them to such a degree it is hard to eliminate them totally.

The final consideration, though, in addition to individual systems affordability include the requirements to do everything we can to reduce overall cost growth. I refer to that cost growth independent of that which is expected or which is reflected by inflation.

We also have to recognize in the Navy, and we have not always, the cost of the ownership for the current and any expanded force. It has been historically noted that we have underpriced the costs of ownership in future planning when determining what our force costs might be. We have in the last 4 years made a very concerted effort to recognize that fact and to fund the necessary readiness dollars to insure that we can operate that force which we have, and clearly that requirement also puts an upper bound on the level of expansion that we could logically afford.

BALANCING ACT



FORCE STRUCTURE	MODERNIZATION	READINESS	SUSTAINABILITY
● SHIPS	● R & D	● PERSONNEL	● WARTIME STOCKS OF
● AIRCRAFT	● SYSTEMS UPGRADE	● OPERATIONS	● ORDNANCE ● SPARE PARTS
		● MAINTENANCE	● FUEL ● MEDICAL SUPPLIES
		● SUPPLY	● NAVAL RESERVE
		● TRAINING	
		● MILITARY CONSTRUCTION	

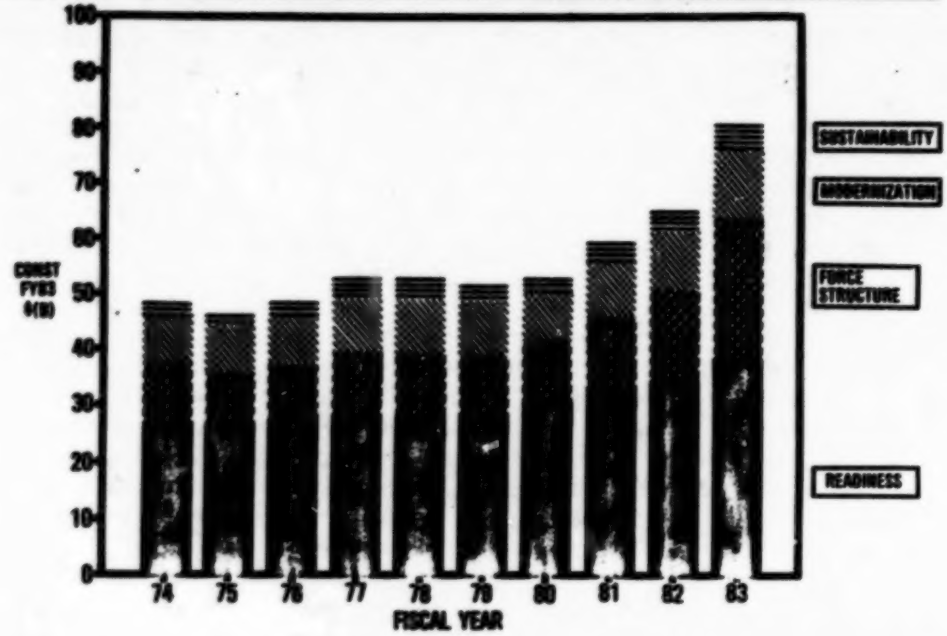
In balancing our resources to build for the future, this chart represents how the pie of the total obligational authority and outlay dollars are divided in the 1983 budget which you have before you for consideration. The force structure section of this particular TOA—total obligational authority—is this year about 31 percent of the total. This large percentage is due, as you have already noted, to the inclusion of two nuclear powered aircraft carriers and the two Trident FBM submarines, one of which was deferred from last year.

The readiness dollars, therefore, reflect a somewhat smaller percentage of the total—48 percent—while still reflecting real growth in the readiness and ownership costs funding.

I would note that for the future, the force structure segment in terms of its total percentage will be a smaller proportion reflecting more nearly the more traditional 25 percent or less of total obligational authority requested.

I note specifically that within the pie of readiness and substainability dollars shown is that funding which operates our current forces. It pays for the people, it pays for the operations, the maintenance, supplies, spare parts, training, and the necessary construction to fund those forces.

FUNDING OF NAVAL CAPABILITIES
(TOTAL OBLIGATIONAL AUTHORITY)



To illustrate what I noted before about ownership costs, you will notice that readiness funding has been relatively steady. We are dealing in constant dollars so you can look at the real growth. They were relatively steady in the decade from the early 1970's, or during the period from the early 1970's to about 1980. 1980 reflects a conscious effort by the Navy to increase the dollars allocated to readiness costs in realization of what it really will take to own those forces and fund their operations. You will note the force structure increase in 1983, and a somewhat lesser increase in 1982 reflecting the building up of a greater force level and a more capable force. The dollars for modernization to meet the threat will probably not change markedly in the future. There has been an increase, on the other hand, in the dollars that we have allocated to sustainability, especially to ordnance and spare parts inventories and to support of our Naval Reserve Forces.

Clearly, all of this force structure leads to a goal. You have heard in previous testimony that there is a minimum size Navy which military leaders consider to be required to regain and to retain maritime superiority, a size that permits us with prudent level of risk to meet the tasking and missions which are assigned to the Navy as we look at the forseeable threat.

WHAT SIZE NAVY?

Minimum essential forces:

15 carrier battle groups; 4 battleships; adequate numbers of Aegis-capable and Aegis-interactive battlegroup surface combatants; 100 nuclear attack submarines; 37 maritime patrol squadrons; 100–110 frigates; significant quantities of cruise missiles and smart weapons in the above platforms; MAF-plus-MAB amphibious lift; 30

minesweepers; support ships to match; and, strategic sealift to support overall U.S. military capabilities.

Considering:

Warfighting demands; contribution of allies/other U.S. forces; stretched thin today; and, opportunities to augment.

That minimum essential force includes, in our judgment, 15 deployable carrier battle groups; 4 battleships, 1 of which is nearing the latter stages of its reactivation, and 3 more which we plan, 1 of them funded in the 1983 budget and long-lead time for another requested in the 1983 budget. It includes adequate numbers of Aegis-capable ships to meet the evolving and more sophisticated air threat which our forces will face. It includes a force level goal of 100 nuclear attack submarines reflecting both the level of submarines required for those missions that have normally been assigned in time of war as well as the fact that submarines operating as battle force units with the carrier battle group markedly enhances capabilities to counter enemy submarine forces and missile launching units. It includes a balance throughout of the necessary surface combatants, patrol craft, support ships, new emphasis on minesweeping capability—capability we have let decline to a dangerously low level in the past. And also, a capability to provide the necessary strategic troop and cargo lift for Army and Marine forces to permit their rapid deployment to those areas in which they might be engaged.

Throughout we have to keep in mind the contributions which are made by allied and other U.S. military forces and the fact that our forces are stretched thin today, leading us to stress strongly the need for buildup to the force levels which we have shown here.

I would like to discuss very briefly Naval Reserve Forces before I go into the next aspect of my presentation.

We are highly cognizant of the contribution made by Naval Reserve Forces, both to augment and to supplement the capabilities of individual units and organizations as well as the capability represented by the reserve carrier air wings, by 13 Naval Reserve maritime patrol aircraft [EMPA] squadrons which provide for about 5 months each year, a considerable augment to our Active Forces; and by the capability represented by a competent Naval Reserve Surface Forces.

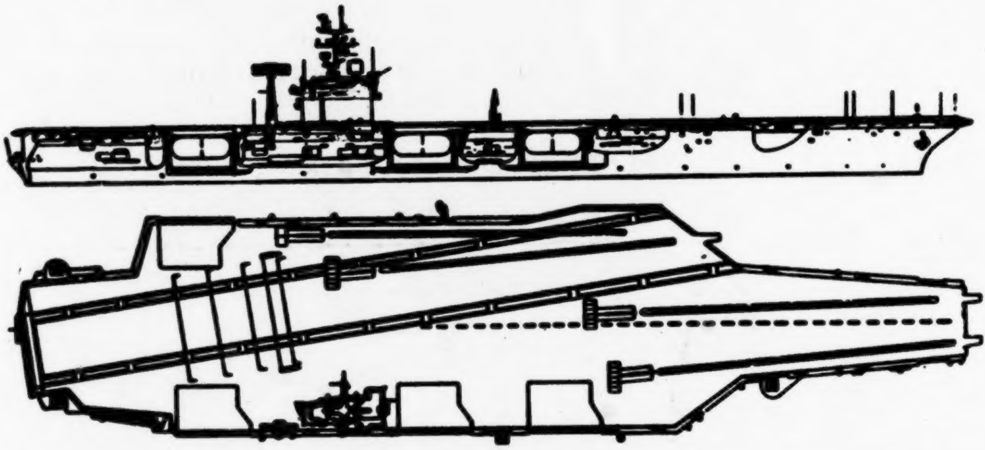
In recognition of that fact, you have heard testimony indicating the Navy's intent to modernize the Naval Surface Reserve. We have this past month transferred two of our FF-1052 *Knox*-class frigates into the Reserve Forces, one on each coast. Two more ships of that class will enter the Naval Reserve Surface Force later this fiscal year. We are looking toward a probable goal of 24 modern combatant frigate class ships into the Naval Reserve Force in the next several years to build to a capability which is credible. Along with that, we are providing the necessary intermediate maintenance activities manned by active duty TAR personnel to provide the necessary maintenance support to those ships.

In the Naval Reserve air community we are cognizant of the contributions which I have already noted made by our 13 MPA squadrons. Those forces are fairly modern. Our two tactical air wings in the Reserve Forces are conducting operations with aircraft, which although capable, are no longer the same as those aircraft being operated from the majority of our aircraft carriers. We, therefore, are looking at a program which will bring more modern aircraft into the Reserve in the near term to provide them with the necessary augment capabilities so they can immediately and directly augment our sea-based tactical air capability.

In addition, we are working on a program to upgrade the logistics lift capability of the Naval Reserve, currently represented by a force of 15 C-9B aircraft, and by a force of about 24 older C-118 aircraft which are being phased out. Those airplanes in many cases are older than the men who fly them, and it is time to provide a capability which can meet the task not only of transporting Naval Reserve personnel for their necessary training, but also needed to provide that early organic airlift augment which we would need in time of crisis or war.

THE NAVY TODAY

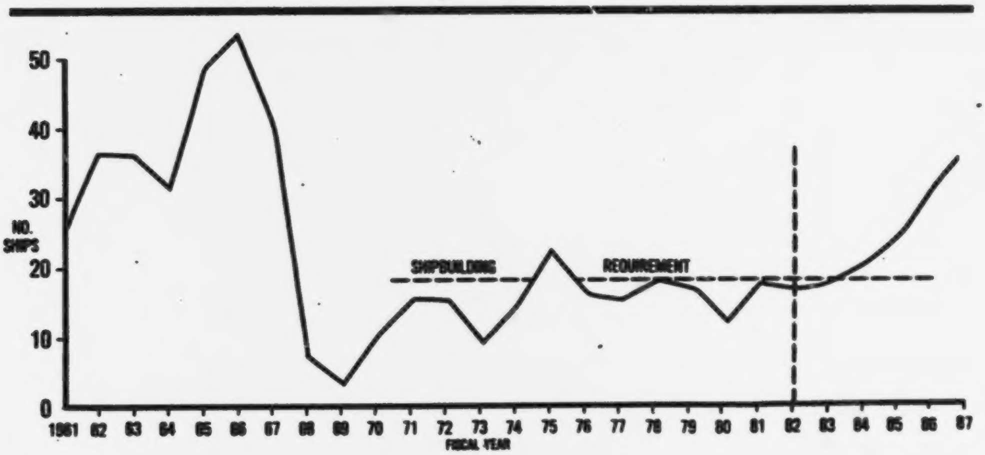
- TEN YEARS OF CONSTRAINED INVESTMENT IN NAVAL FORCES
- A REMARKABLE DECADE OF PROGRESS FOR SOVIET NAVY
- NAVIES ... CAPITAL INTENSIVE, OFTEN USED
- FORCES STRETCHED THIN
- HIGH RISK FORCE TODAY VIS-A-VIS RUSSIANS



Now I would like to turn very quickly to some of the problems that face us. When we look at the Navy today, we see a Navy that reflects a relative lack of investment in force structure and modernization over the past decade. We at the same time see, as you were briefed yesterday, a remarkable decade of progress on the part of the Soviet Navy.

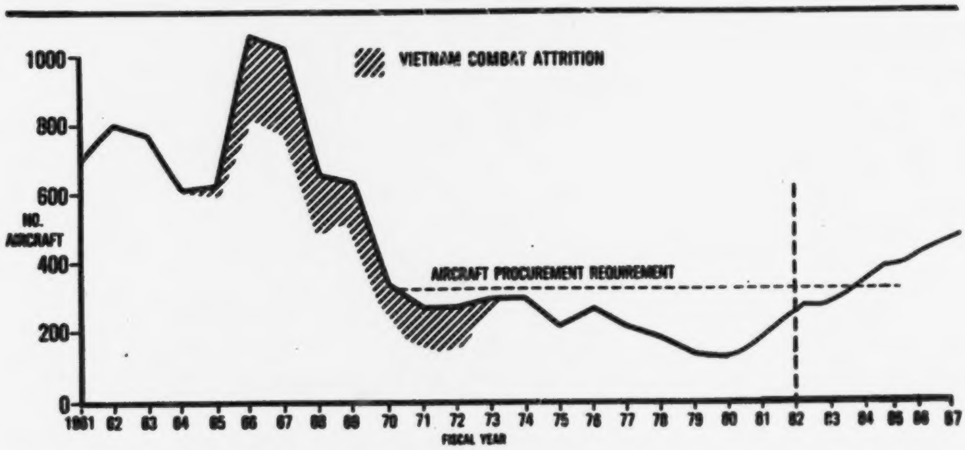
We know that navies have been used frequently and we know that they cost a lot. It costs money to build the kind of capability we are talking about—either U.S. or U.S.S.R.—but our forces are stretched thin. We face a risk, and we have to get on with reducing that risk to acceptable levels.

SHIPBUILDING HISTORY



Let me use two charts which I think illustrate in part the problem. If one reflects on the fact that our naval shipbuilding history portrays an underfunding of the necessary requirements to maintain even today's force levels, it is clear that the up-turn projected for the out years only attempts to make up for the deficits of the past. We are paying in the future for that which we didn't do in the past. The same is true of aircraft procurement. We have not for about 10 years procured enough aircraft to replace even peacetime attrition. So clearly, the investment in force structure in the future is justified.

AIRCRAFT PROCUREMENT HISTORY



Those two factors have a major impact on our ability to fund necessary force modernization.

CARRIER BATTLE GROUP

Structured for total (4-D) war fighting spectrum:
Subsurface; surface; land; and air.
Large "4-D" capable carrier air wing.

Since nuclear aircraft carriers are of considerable interest to this subcommittee and to those interested in both supporting and countering the defense budget, let me talk just briefly about carrier battle groups. They are clearly our primary capability. They are currently the centerpiece of our combatant capability; and even as we distribute our offensive capability among other units of battle forces, they are the only platforms which provide us the capability, in any given environment, to project and maintain power at long distances with a man in the loop.

SIZE
FORCE
STRUCTURE

CAPABILITY AND MIX
OF TACTICAL AND SUPPORT
AIRCRAFT

- **OVER TIME, A 90 AIRCRAFT CVW CAPABLE OF OPERATING IN ALL WARFARE AREAS HAS BEEN DETERMINED TO BE THE MOST EFFECTIVE AND EFFICIENT SEA BASED TACAIR COMBINATION.**

Given that, their importance to us is considerable. We have spent a lot of time refining this capability. I know there has been a lot of interest in the size carrier necessary to do that job. Essentially, all of the studies which have been conducted, and there have been many over the last decade, have arrived at the conclusion that an aircraft carrier with the necessary survivability, robustness, and capability to support an air wing of about 90 aircraft is that which gives us the best combination of size, force structure, and capability to do the job efficiently and effectively at sea. We have not failed to heed the fact we should be looking at other size carriers in terms of both affordability and in terms of required capability. The Navy has demonstrated a continued interest in V/STOL capability, which if properly developed might provide the capability to more broadly distribute our sea-based air capability. We have not had the necessary support to carry that effort too far along.

Mr. BENNETT. Now, we have had a legislative decision in the last bill last year as a result of the input of Senator Hart on the Senate side which required a study. I have forgotten the exact wording, it didn't require you to build or plan a ship, but it did require you to look and see whether a smaller type ship made sense. Has that report been completed yet?

Admiral TROST. That study has been completed. We owe the report to the committees of Congress by the middle of this month, by March 15. It has been completed. It is in the process of coming your way.

Mr. BENNETT. Thank you.

Admiral TROST. We have looked at various size aircraft carriers in recognition of this interest and we have provided or will provide both a summary of the various studies as well as the rationale that has led the Navy to its decision that we do need to continue to procure current large deck carriers up to the point that we have reached a minimum level considered necessary to do our job.

That report will be forthcoming.

Secretary Sawyer, our Assistant Secretary for Shipbuilding and Logistics, will be appearing before this committee this afternoon and he will be prepared to address in detail with the committee the acquisition strategy and the rationale for the request for two carriers appearing in this year's budget.

I simply wanted to introduce the subject since I know it is of considerable interest to you, and I know you will receive all of the additional information you require. I would be prepared to address this in greater detail if you desire to do it during my portion of the testimony. I won't go into further detail, Mr. Chairman, unless you wish to at this point.

There are other issues which I know are of considerable concern to the committee, including the inclusion of two Trident submarines in the program this year. I would note that the fiscal 1982 Trident submarine was deleted by the Congress last year or deferred, I should say, because of the problems that Electric Boat Co. was having at that time in delivering its submarines and adhering to schedules. Those schedules and contractural difficulties have been cleared up; and that submarine, for which long-lead funding has been appropriated, is included along with one which was planned originally for inclusion in this fiscal year.

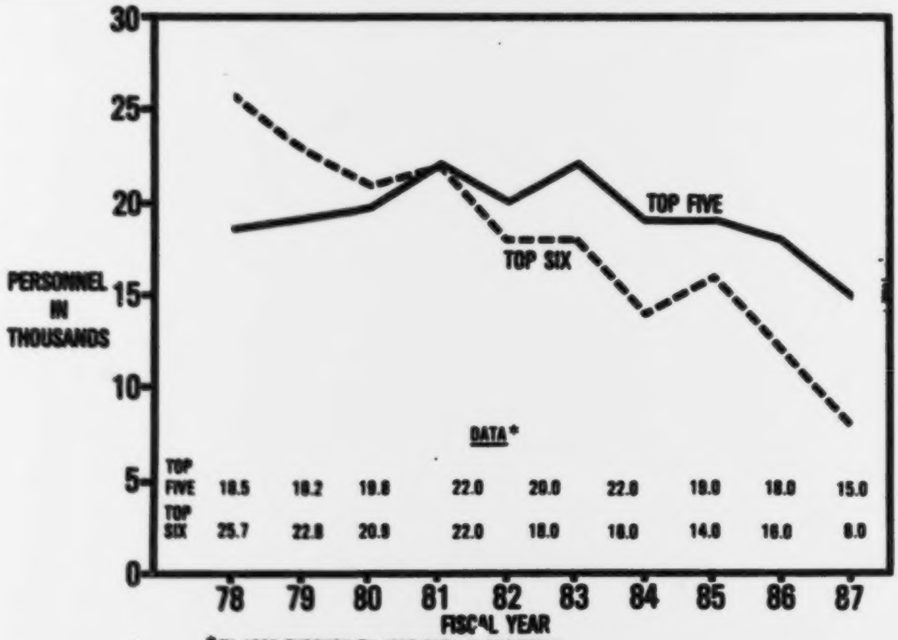
I also note that the subcommittee last year supported and the appropriations bill included long leadtime funding for three nuclear attack submarines of the SSN-688 class. Our budget submission includes only two of those submarines in the fiscal year 1983 SSN-688 authorization requested, and that again was a question of balance and affordability within the total funding allocated to the Navy for acquisition of new forces.

I would also like to note that we would emphasize to the subcommittee the need to keep on with the ongoing CG-47 class Aegis cruiser which gives to the fleet when it arrives, a tested, proven-at-sea capability for markedly enhancing our antiair warfare capability. I say proven at sea since a portion of that system was installed in the test ship, along with the missiles and vertical launch systems which are part and parcel of it, and has been proven highly effective.

Finally, I noted the increase in Naval Reserve Surface Force levels represented by the addition of frigates to those forces. A portion of that increase, probably at least half will be comprised of the FFG-7 class frigate, and forms the basis for our continued procurement of that class of ship.

Now, Mr. Chairman, I would like to turn to one other topic which, although not directly of concern to the subcommittee at this hearing, is something which I think all of us must focus on and that is the Navy's ability to man the forces we propose. This particular slide simply discusses the petty officer shortfall, but let me talk just a little more broadly on the topic.

PETTY OFFICER SHORTFALL



*FY 1982 THROUGH FY 1987 DATA IS PROJECTED

Clearly, to support the enhanced force structure that we are discussing, we need more people, officers, and enlisted personnel.

Mr. Bennett. Why do you let so many middle-age people go? Admiral Holloway was supposed to study what you could do to extend the lives of those relatively young men. I mean they are half my age.

Admiral Trost. Let me talk to you a little bit about what we are doing.

Mr. Bennett. A lot of people want to come back, I know that. I represent a lot of these people that are out because of the rules that you now have. They are relatively young people.

Admiral Trost. As you know, we currently have the capability to man numerically the forces we have. We have programed increases in those forces for the future, I am speaking now in terms of total numbers, to man the forces that we expect to procure. We feel confident of our ability to recruit and retain to the levels required.

We are currently faced with a petty officer shortfall, an experienced shortfall. The reasons for that really go back to the massive reductions in Navy strength in the early 1970's and the loss of many of the people who came in during that time frame as they reached the end of their first enlistments. We have been working hard to reduce that shortfall and clearly that is also a necessity for future success.

We have had success, and the basis for our current optimism, is the fact that with the support we have gotten from Congress—especially in the last 2 years—in assuring comparability of pay, and in providing for such important factors as sea pay—a recognition of the tough job faced by many of our men at sea—we have, we think, turned the corner in many areas. The Navy has been able to recruit to its desired levels for 27 consecutive months to date. And we can continue to do that as long as our recruiting personnel and recruiting budgetary requirements are met.

We have increased markedly the retention of experienced personnel. We will in the timeframe of this fiscal year, man an additional 19 ships while at the same time reducing our overall petty officer shortfall in terms of total numbers. We will increase the petty officer inventory by almost 12,000 petty officers, and the shortfall increase over the years as you see depicted on this particular chart.

Mr. BENNETT. I think Mr. Spence has a motion he would like to make.

Mr. SPENCE. I move the chairman may be authorized to close the session today and for one subsequent day for the purpose of receiving national security information.

Mr. BENNETT. This requires a rollcall vote.

Mr. SCHAFER. Mr. Bennett.

Mr. BENNETT. Aye.

Mr. SCHAFER. Mr. Mollohan.

[No response.]

Mr. SCHAFER. Mr. McDonald.

Mr. McDONALD. Aye.

Mr. SCHAFER. Mr. Hutto.

[No response.]

Mr. SCHAFER. Mr. Foglietta.

[No response.]

Mr. SCHAFER. Mr. Dyson.

Mr. DYSON. Aye.

Mr. SCHAFER. Mr. Hertel.

[No response.]

Mr. SCHAFER. Mr. Spence.

Mr. SPENCE. Aye.

Mr. SCHAFER. Mr. Emery.

Mr. EMERY. Aye.

Mr. SCHAFER. Mr. Trible.

Mr. TRIBLE. Aye.

Mr. SCHAFER. Mr. Dougherty.

[No response.]

Mr. SCHAFER. Mr. Hartnett.

Mr. HARTNETT. Aye.

Mr. SCHAFER. There are seven ayes, Mr. Chairman.

Mr. BENNETT. We will go into executive session when necessary. You may proceed.

Admiral TROST. The point I would like to make is that in all those areas—ability to recruit, ability to retain our officer and enlisted personnel, ability to reduce attrition of first-term personnel which we have been highly successful at, and basically the ability to keep the men we want around—we are doing a lot better job.

Now that job demands the utmost of Navy leadership and it demands that we have the continued support of this subcommittee and others like it. I am concerned personally by some of the comments made by some of your colleagues and by members of the press which would indicate that now that we have done well, it is time to cut back or to freeze or to remove benefits. We can face the same peaks and valleys that have been reflected in the history of personnel manning if we don't maintain a steady effort. We are basing all of our optimism, a cautious optimism, as to our ability to meet those goals, on continued support of the Congress for necessary compensatory levels of pay and benefits to keep people around. We think we can do it.

I would also like to touch very briefly on civilian personnel and note that there is, also, considerable effort to reduce the numbers of personnel it takes to support our forces. Most civilian personnel of the approximately 300,000 in the Navy are directly related to readiness efforts. They are the people who do the depot maintenance work on our ships and aircraft component repair work, supply and logistics support—that does not require military personnel—so any significant cut in our civilian personnel has a direct, translatable impact to readiness. We strongly support the levels of civilian personnel which are currently requested. We recognize also that we have the responsibility to get on with contracting out wherever a function can be more effectively and less expensively accommodated by people in private industry.

Let me provide my conclusions, Mr. Chairman.

NAVAL FORCES IN THE 1990'S

As we look to the 1990's, we will see a significant amount of new hardware, ships, aircraft, and supporting equipment in the fleet—in part reflecting that equipment already authorized and in part reflecting that which we are requesting in this year's budget and anticipate requesting in the future.

Our ordnance and spare parts inventories will clearly improve. We hope that public consensus for a strong defense remains. I think it is essential for us to be successful in this effort of ours to regain maritime superiority.

We recognize also that naval forces are evolutionary. You don't buy this expensive equipment and change it other than on the margin in a very big hurry, otherwise, we are really throwing away good equipment.

I suppose my bottom line would be that this country needs strong maritime forces as a key element of its defensive effort. We think we are on track and now seek continued support to get on with implementing that particular program. The President's program, and the President's budget, meet the needs that we see as essential and we hope for your continued support to permit us to get on to achieve it.

Since you are about to close the hearing, I would like to show one more viewgraph. Since I am told that everything that is published in the Congressional Record receives very careful scrutiny from the Soviet Embassy in Washington, I would like whoever scrutinzed that record to note that we take account of what other people say. Specifically, here is a statement by Fleet Admiral Gorshkov, Head of the Soviet Navy since 1955, who is credited as the architect behind their success. He, too, recognized that, "In order for a state to be a great power, it must have a powerful peacetime posture at sea."

I would suggest that we, too, heed those words and recognize that our most likely potential enemies understand the problem.

Mr. Chairman, that completes my presentation and I am prepared to respond to your questions.

WRITTEN STATEMENT OF VICE ADM. C. A. H. TROST

INTRODUCTION

I am pleased to have the opportunity to appear before this subcommittee to testify about Navy force structure planning.

Our Navy force structure planning is based on a careful evaluation of the capabilities necessary to meet the roles and missions assigned to our Navy and Marine Corps forces in support of U.S. national policy and strategy. U.S. political, economic and military policies are influenced by serveral key factors: Our desire for a world in which peace and political stability are a reality; by our increasing economic interdependence with other nations of the world; by our heavy reliance on overseas sources for critical raw materials, including a substantial portion of our current energy supplies; by regional political and economic instabilities in many areas of the world; and, by the challenge and the threat posed by an increasingly militarily capable adversary, the Soviet Union. These factors in turn dictate our military strategy, a strategy which has as a key and essential ingredient the requirement for a strong maritime strategy.

Our naval force planning rests on a U.S. maritime strategy which is straight forward and coherent. In his annual report to the Congress, Secretary Weinberger stated succinctly that it is the policy of the current administration to restore and maintain maritime superiority. Maritime superiority is fundamental to the achievement of the national military objective of this Nation. We must have the capability, in peace or in time of crisis, and in conjunction with other U.S. military and allied forces, to utilize or establish command of the seas when and where our national interests require. If challenged, we must be able to prevail in those areas vital to our interests. Specifically, U.S. maritime strategy requires that we have a capability to:

Preserve access to our overseas sources of critical materials, our trade markets and our friends and allies.

Maintain a survivable, capable sea-based nuclear strategic deterrent.

Keep open the sea lines of communication which permit the United States to maintain a credible forward deployed posture overseas as part of our forward strategy.

Provide a counter to the growing political, economic, and military threat posed by the Soviet Union.

Maintain forces forward deployed to contribute to regional stability and to provide a flexible response in time of regional threat of crisis.

Project U.S. or allied power ashore if required.

Provide a strategic mobility capability to move other U.S. military forces when required.

Operate offensively on a global basis, capitalizing on the geographical disadvanages of our adversaries.

Sustain a level of fighting in wartime sufficient to contain initial enemy actions, and then to gain advantage and ensure eventual U.S. victory, in either a short of a long war.

Retain strong residual forces for war termination and to influence the terms of peace.

A consensus clearly exists with regard to our maritime strategy and the capabilities required to implement that strategy. In addition to Secretary Weinberger's statement in the fiscal year 1983 Defense report, to which I referred earlier, we were highly encouraged by the "Sense of Congress amendment" in section 782 of the 1982 Defense Appropriations Act. This amendment makes clear that Congress recognizes and understands the important roles which must be carried out by our naval forces, supports a larger and stronger American Navy as an essential ingredient of our Armed Forces, and, that the Congress expects and demands that our Nation have naval forces superior to any adversary who might challenge us. Or, as stated by Admiral Hayward, Chief of Naval Operations, "Clear maritime superiority when our allies are considered in the balance."

The naval force planner is thus faced with a clearly stated requirement for a larger and more capable navy which will fulfill the need for maritime superiority. Since we are rebuilding our force structure from a reduced base, and, when viewed against the very impressive naval force growth and momentum achieved by the Soviets during the past ten years, the task of restoring maritime superiority will be a challenging one. Nonetheless, there is strong consensus among civilian and uniformed Navy leaders about the kind and size of Navy we need to execute our maritime strategy.

The kind of U.S. Navy required to implement the maritime strategy of this Nation—to maintain credible strategic nuclear deterrence, to be able to prevail in a worldwide conflict with Soviet maritime forces, to respond to "third world" contingencies, and to carry out peacetime naval diplomacy—must incorporate the following characteristics:

For strategic nuclear deterrence . . . survivable, reliable, and alert forces; long-range and accurate weapons; and, two-way command and control.

For worldwide conflict with Soviet maritime forces . . . forces that can win in a three-dimensional environment; against a dense and sophisticated threat; in ocean areas where recognizable battle lines do not exist and the element of maneuver is a two-edged sword—having offensive and defensive attributes—in naval warfare; where the problem of surveillance is more difficult by an order of magnitude than in the land environment; and forces whose ultimate aim is to strike decisively from forward positions while protecting rear area sea lines of communications.

For "Third World" contingencies . . . forces in forward positions in a high state of readiness; where rapid deployment—by sea and air—of reinforcing units is of critical importance; against a threat not particularly dense but often sophisticated with great "staying" power; and, where the presence of non-belligerents can complicate naval warfare significantly.

For peacetime naval diplomacy . . . forces that are forward deployed and possess credible and relevant capabilities to project power. War deterrence and protecting our interests are the goal and there is a lot of "waterfront" to cover.

FORCE STRUCTURE PLANNING

In planning a navy with these characteristics, we acknowledge that we are faced with a principal adversary who will continue to outnumber us substantially. Recognizing this factor and the contributions of other U.S. military forces and of our allies, we base our force structure judgments and investment strategy on a number of key principles:

Control of the air remains an immutable imperative of successful naval operations. Critically, it is our continued ability to control the air that guarantees the Soviets they are forever exposed to being placed at an extreme disadvantage. Hence, there remains the continued essentiality of sea-based tactical air power, as represented by our carrier battle groups.

Flexibility of naval forces is the sine qua non to establishing maritime superiority. Since our force levels do not provide us the opportunity to carry out a naval strategy that permits us to dominate vital sea areas simultaneously, flexibility is critical to our being able to move from one vital ocean area to another with whatever naval force deemed required for the circumstance presented, and in choosing the time and place of the next encounter.

Effective distribution of offensive power is a further principle underlying our force posture objectives. The greater the degree of distribution, the more we enhance our striking ability, complicate the enemy's defensive problems and dilute the effectiveness of his offensive forces. Hence, our emphasis on the battleship reactivation, which has the potential of becoming the most effective offensive surface combatant in any navy today excluding our carriers. Likewise our program to install vertical launch Tomahawk in the *Los Angeles* class submarine, as well as to give virtually every surface combatant its own cruise missile capability, will assure proliferation of our offensive options. The long-range cruise missile represents probably the next great breakthrough in naval warfare, both for striking other ships at sea as well as vital naval targets ashore.

The force multiplier principle is a critical element in our investment strategy, one that helps assure us that we can operate successfully in a highly sophisticated and complicated warfare environment. Hence, we must dominate electronic warfare, develop survivable surveillance systems, coordinate and integrate information through the employment of effective and survivable command and control systems, and frustrate and mislead the enemy through the most perplexing countermeasures.

The robustness of ship and weapons systems design is important if we are going to operate in hostile environments and survive, remaining functional in the face of battle damage. The characteristic of robustness demands redundant sturdy systems and components. They do not come cheap—which might help explain why the U.S.

Navy is so often perceived to have a penchant for larger ships with their concomitant higher costs. We must be able to go in harms way—and return the victor.

Lastly, we seek to optimize the employment of smart weapons, capitalizing on new technologies available and striving to maintain a technological edge over any potential adversary. Hence, more and more of our design effort goes into the employment of smart weapons with high degrees of accuracy and kill probability in preference to investing heavily in platforms that go faster, higher, and farther.

In terms of numbers, the chief of Naval Operations has stated that in his professional judgment "Fifteen carrier battlegroups are essential if we are to say again with confidence that we have attanined a position of martime superiority." Further, additional mid-range goals of the 600-Ship Navy—displaying the characteristics and reflecting the key principles I have discussed—consist of the following capabilities:

Four battleships; adequate numbers of Aegis-capable and Aegis-interactive battlegroup surface combatants; 100 nuclear attack submarines; 37 maritime patrol squadrons; 100–110 frigates; significant quantities of cruise missiles and smart weapons in the above platforms; MAF-plus MAB amphibious lift; 30 minesweepers; support ships to match; and strategic sealift to support overall U.S. military capabilities.

Navy force structure planning must address more than the number of ship and airplanes required for maritime superiority. Of highest priority, we must plan for the readiness and wartime sustainability of the naval forces in being. Unless "Day One" readiness and wartime stocks of munitions, spare parts and medical supplies are in hand and our units are properly manned and trained, we cannot successfully implement the maritime strategy I have discussed. The need to balance the demands of the future against current preparedness is ever present in our planning process. We must plan for continued modernization of our weapons to ensure technological superiority over a threat whose sophistication and numbers continue to grow. In addition, we must purchase the necessary ships, aircraft and equipment to replace those retired due to age, while also striving to increase our force levels to recognized requirements. There is no precise way to measure the cumulative effect on military capability of the dollars spent on readiness, sustainability, force structure, and modernization, but we believe that our fiscal year 1983 budget achieves significant and balanced improvement in all four categories.

I wish to emphasize that we do consider carefully and place heavy reliance on the contribution of other U.S. military forces and of our allies in arriving at the capabilities just described.

The industrial capacity to build and sustain these forces has been present in the recent past and should again be available if the business community sees commitment on the part of our Government to attain long-term procurement objectives. Stability in force planning is extremely important.

NAVAL RESERVE FORCE STRUCTURE

The capability of our reserve forces—surface, air and support—is an important element in our overall force capability. The Navy has made impressive improvements in naval reserve readiness over the past several years and further qualitative improvements are receiving strong emphasis.

Our long-term program for the surface naval reserve is to have a force of at least 24 new or nearly new ASW frigates with Lamps I ASW helicopters. The first two *Knox* FF–1052 class frigates were transferred to the reserve program early this year. More will follow, along with a number of the first *Perry* FFG–7 class frigates. There will likewise be a replacement of the 22 old minesweepers with new mine countermeasures ships; the final number has not been determined. Naval Reserve shore intermediate maintenance activities are already operating and more will be opened in later years to support active and naval reserve ships.

SCN ASPECTS OF FORCE STRUCTURE

The fiscal year 1983 SCN budget and associated five year plan represents a major increase in the shipbuilding program, when compared with those submitted in the past several years. We are proposing new construction of 133 ships over the next five years. Of these, 60 will be major combatants. A ship construction program of this size, carried to its conclusion, will provide the sustained growth of the fleet toward the goal of the 600-ship navy.

This budget and five year shipbuilding plan contains many qualitative and quantitative changes from the plan of last year. It adds ten *Los Angeles* class SSN–688's nuclear attack submarines; accelerates *Nimitz* class nuclear-powered aircraft carrier deliveries of CVN 71/72/73; adds three DD–963 *Spruance* class destroyers; continues with FFG–7 *Perry* class frigates; advances the LHD–1 to fiscal year 1984; accelerates the mine countermeasures ships and adds a new minehunter ship program; adds eleven civilian-manned fleet oilers; adds then other auxiliaries; introduces the swath hull ocean ASW surveillance ship; and adds two hospital ships.

The strength of this SCN plan lies not just in the number of platforms to be procured, but more importantly in the broad qualitative improvements provided to our total warfighting capabilities. Construction of the CG–47 *Aegis* class cruiser must continue at an accelerated rate, for this class provides a critically needed battle group capability against current and projected Soviet anti-ship cruise missiles, while adding the Tomahawk cruise missile to the battlegroup offensive power. The Aegis/SM–2 weapons system will join the fleet with the commissioning of U.S.S. *Ticonderoga* (CG–47) in January 1983. The Aegis ship, with its superb and proven phased-array radar offers the battle group a dependable counter to the enemy's ever-increasing capability to coordinate high density air attacks. The SM–2 missile with significantly improved kinematic capability enables us to enlarge further the battle space above the carrier battle group, enhancing force survivability in the highest threat areas.

Ticonderoga is about 85 percent complete. Seventeen of these high quality ships are included in the five-year plan.

The design of the new multi-purpose class destroyer DDG–51 (DDGX) continues, and we will begin construction in fiscal year 1985. The ship is conceived to interact synergistically with the CG–47 Aegis cruisers at less cost than the CG–47, but with considerably more open-ocean capability that the *Spruance* class destroyers, which lack meaningful area air defense systems.

This five-year plan includes construction of two large deck nuclear powered aircraft carriers. Clearly, the fact that we are seeking authorization for two carriers in one fiscal year, a major alteration to the budgeting strategy from last year, will be a matter of special interest to the Congress and this subcommittee. In considering this authorization request, it is important that the Congress appreciate that this alteration has not been brought about by any change to our understanding of the naval requirement, but rather as the result of the application of a new business strategy—a fully funded, multiship procurement. By contracting for two CVN's in tandem, we are planning for major production efficiencies, seeking to shorten the normal seven-year production time by about two years for each CVN and saving almost three-quarters of a billion dollars. In my judgment, fifteen carrier battle groups are essential if we are to say again with confidence that we have attained a position of maritime superiority. The carrier battlegroup continues to epitomize those key characteristics which I discussed earlier—assured domination of the air, added fleet flexibility, robustness to combat damage, pure offensive power, and the potential for optimizing the employment of "smart" weapons.

The Navy is mindful of the desire by the Congress for meaningful progress in light carrier development. A report requested in the fiscal year 1982 authorization conference report is nearing completion and will be forwarded in the near future.

One of the most threatening aspects of the Soviet naval force is the size and quality of their submarine force. Although we maintain technological superiority in anti-submarine warfare, increased emphasis is warranted to ensure continued effectiveness against the expected advances in Soviet submarines and submarine-launched weapons.

Attack submarines remain a vital anti-submarine platform, as well as a major contributor to anti-surface warfare. Procurement of 17 *Los Angeles* class nuclear submarines over the five years of the program will bring us closer to our mid-range goal of 100 SSN's.

General purpose destroyers also contribute heavily to battle group anti-submarine warfare. A combination of DDG–51 class guided missile destroyers and DD–963 *Spruance* class ASW destroyers will provide affordable protection to the battle group. We are requesting three ships of DD–963 class in addition to four of the DDG–51 class over the next five years.

The *Oliver Hazard Perry* class FFG–7 program will be continued with procurement of twelve more ships over the five year period. These 12 ships added to the active force will permit us to transfer other *Perry* class frigates to the naval reserve, accelerating our efforts, noted earlier, to modernize the reserve force ASW capability, a major role to be assigned frigates in the event of war. Large numbers are needed, and the proposed building profile will bring us closer to the objective of 100–110 frigates.

With the addition of the SQR–19 tactical towed array sonar (TACTAS) to the *Perry* class frigates and *Spruance* class destroyers, we gain a significant ASW capability against the most modern Soviet submarines. TACTAS extends our undersea

"Battle Space" threefold over earlier systems, enabling the Lamps III helicopters to engage enemy submarines at and beyond the edge of our largest battle force disposition.

Ocean surveillance ships (Agos) add flexibility to our broad ocean area surveillance. Procurement of six of these ships is provided for in the five-year plan. We are considering a small water-plane area twin hull (SWATH) design, which would enable them to remain at sea on patrol in even very high sea states.

Reactivation of the remaining three *Iowa* class battleships is planned over the next three years. These are excellent weapon systems, which we expect to deliver to the fleet on time and at estimated cost. The cruise missile-armed battleship will serve as the centerpiece of the surface action group, acting as a tactical unit by itself or in support of carrier battle groups.

The first ship of the *Ohio* class SSBN has now joined the fleet and has met significant milestones in preparation for its first deterrent patrol later this year. *Ohio* demonstrated the launch of the Trident I missile this January with complete success. *Ohio* is an outstanding submarine that is surpassing its designed specifications in almost every way.

Mine warfare considerations, which were neglected during the declining Navy budgets of the last decade, are being strongly reemphasized. In the past three years we have been making major progress. The Navy's program this year takes significant strides toward restoring and upgrading our mine warfare capability, an aspect of naval warfare that has tremendous potential, both offensive and defensive.

Construction of mine countermeasures ships (MCM class) to provide deep ocean countermeasures capabilities continues, with funding requested for 13 ships over the five-year period.

A new class of minehunter, the MSH-1, will be introduced in fiscal year 1984, to complement the 13 mine countermeasures ships requested.

As we build our forces, we continue to examine and extend our mine warfare planning, ensuring that this warfare area in integrated coherently into offensive battle group operations.

Marine Corps amphibious assault is unique—it is the only U.S. capability to insert significant numbers of forces ashore in a hostile environment. Adequate, survivable amphibious lift is essential.

Faced with the potential for block obsolescence of our amphibious force in the 1990's, we have pursued two separate ship construction programs in this year's plan. Construction of eight LSD-41's and introduction of the LHD-1 (LHDX) class will allow us to begin replacement of aging ships with modern vessels that can better accommodate the type of equipment the Marine Corps will need to accomplish its worldwide mission.

Procurement of the modern air-cushioned landing craft, LCAC, also continues. With its high speed and longer range, the LCAC not only improves the Marine Corps landing capability, but it also contributes to the survivability of the amphibious forces by allowing the ships to stand further offshore.

Strategic mobility capabilities have received particular attention since fiscal year 1980 as we have grappled with the unique logistic problems associated with Indian Ocean operations. The ability to move and support forces in a distant theater of operations depends on a combination or airlift, sealift, and prepositioning assets. While airlift offers tremendous advantages in terms of time of arrival, only a small fraction of our lift requirements can go by air. Sealift, while it entails longer transit times, provides throughput unmatched and unmatchable by airlift. While our total capacity, embodied in a rather complex combination of sealift programs, is sufficient to move the total tonnage requirements, severe problems exist in meeting the time phasing associated with any realistic reinforcement. Prepositioning of equipment in forward areas is a partial solution to the timing problem. More modern sealift is another. Both avenues need to be pursued aggressively.

The near term prepositioning ship (NTPS) program has been expanded to thirteen ships carrying 30 days of sustainability for a Marine amphibious brigade (MAB). Over the next five years, we plan to replace the NTPS program with an expanded maritime prepositioning at sea of 30 days of combat supplies for three MABS. Originally, we planned to acquire 12 TAKXS for this purpose through a combination of new construction and conversion, but as you know, we are now pursuing a convert-and-charter alternative that will allow us to stick to our schedule for full implementation of the MPS concept while reducing costs in the new years.

CONCLUSIONS

The Navy of the 1990's will witness significant amounts of new hardware entering the fleet. There will be some new type platforms and equipment. However, we will tend more toward evolutionary design rather than revolutionary changes. Ordnance and spare part inventories will improve significantly from current levels; military and civilian manpower resources will be adjusted to support the larger force. Against these improvements must be weighed relative gains by the Soviets as they continue their momentum toward a truly "blue water," global navy. The U.S. Navy will be viewing individual system affordability in terms of contribution to our overall military capability.

The need for restoring maritime superiority is clear. The planning for the restoration and maintenance of superior maritime forces and capabilities has been accomplished. We need now to set about the long-term task of achieving these plans.

Mr. Chairman, I trust I have been responsive to your desires in my remarks this morning. I am now prepared to address any questions you might have for me.

Mr. **Bennett**. Thank you very much.

I don't think we will call immediately for going into executive session.

I understand the Navy will reach a fleet of 600 ships by 1990, at least that is your goal. Will the fleet in 1990 meet all of the force goals you outline in your statement? If not, in what areas will there be a shortage? You might address how much slippage there is from the 600 ships by 1990. I am not sure that is a positive statement.

Admiral **Trost**. The force goal that we currently envision by 1990 is just over 600 ships, specifically a total of 614 ships. I would note that the number 600 is roughly that figure which equates to the force goals which I outlined which included the 15 carrier battle group structure, the battleships, the 100 submarines.

Mr. **Bennett**. It includes the Trident?

Admiral **Trost**. It included the Trident submarines.

Mr. **Bennett**. Strategic as well?

Admiral **Trost**. It includes all of our forces, all of our Active Forces and it includes those Naval Reserve Forces which are deployable, and at that stage in time, all of them should be deployable forces, since all of the older ones will be phased out.

Mr. **Bennett**. Petty officer shortfall is at least partly, it seems to me, a result of the closed personnel system of the Navy. That is, there is no opportunity for a lateral entry for more experienced personnel. Has the Navy considered trying to bring experienced personnel in? For example, electricians.

Admiral **Trost**. We have a very strong effort to try to bring in experienced personnel. We were, this last year, successful in recruiting an average level of about 101,000 men per month with prior experience. I am told about 60 percent of those men were immediately assigned to ships at sea or to aircraft squadrons, reflecting a skill that was utilizable and a training level that was still current.

Mr. **Bennett**. You are talking only about prior service personnel. Maybe I am being too sanguine and too optimistic in thinking maybe you could bring in some technically trained and able people who had not worked their way up.

Admiral **Trost**. There is such a program. I am not familiar with the details of that program. It does take into account experience in civilian life and permits entry at a certain level, but I don't know the details exactly. I can provide those for you.

[The following information was received for the record:]

DIRECT PROCUREMENT ENLISTMENT PROGRAM

There is such a program entitled "Direct Procurement Enlistment Program" (DPEP). This program was used during the 1960's and 1970's for accessing construction battalion personnel, data processors, data technicians, and machinists. The program applies to most pay grades provided the individual's skill is in demand by the Navy and certain classroom and or work experience requirements are met. For example, for pay grade E-4, the applicant must be at least 20 years old with 2 years experience and 12 months or 1000 classroom hours under instruction. The E-7 applicants must be no younger than 28 years with 8 years of work experience including 1½ years as a supervisor and 48 months or 4000 classroom hours of training. The training may have been acquired in high school, vocational or technical school, or junior college and may be in part substituted in fulfilling the experience requirements. The number of accessions in the program has been small as evidenced by our 1982 goal of 250 and our year-to-date accessions of 32.

However, in an effort to improve the DPEP program, to target scarce recruiting resources, and to evaluate skilled, non-prior service civilians as petty officers, we have initiated a pilot study program in 1982 entitled "Lateral Entry Accession Proigram" (LEAP). LEAP is being conducted by Navy Personnel Research and Development Center (NPRDC) in San Diego and is specifically looking at bringing non-prior service personnel into the Navy in the E-4 through E-7 levels from high skill, high unemployment areas such as northern Ohio and southern Michigan. The results of the study effort will be of use to the Navy Recruiting Command.

Mr. BENNETT. Sounds like a good idea. I am inclined to think most technicians in the Navy are there partly at a sacrifice. I may be wrong. I think a great many of them probably could do better in civilian life, so maybe the problem is that people that work their way up are more likely to stay because of the Navy and to get a comparable man outside maybe you would have difficulty bringing somebody in because he might not have that same affection for the Navy. I am not sure.

Admiral TROST. I concur with your philosophy. I think any man who has achieved a skill level which makes him of critical importance to the Navy is also a man who has the capability to earn far more. He will certainly be compensated at a far greater level than he would if he were to remain in the Navy. That, of course, is the heart of our retention problem.

Mr. BENNETT. Mr. Spence.

Mr. SPENCE. Thank you, Mr. Chairman.

Admiral, I firmly believe if the American people could have access to more of the information that we have access to of a classified nature they might be more concerned about the threat facing us as a nation. I have attempted on previous occasions to try to get the military to release more classified information.

How much can you tell us in open session about our fire control systems and our ability in that regard to cope with antiship missiles that travel at a rate of speed that I guess approaches 2.5 mach or something?

Admiral TROST. That is correct.

Mr. SPENCE. What does this pose in the way of a threat to our Navy?

Admiral TROST. Of course, one of the major threats that our combatant forces at sea face is in fact from air and sea launched antiship missiles of various models which can be launched by any number of platforms. Our effort in recent years and our continuing effort reflected by a program such as the Aegis program are designed specifically to counter that threat, to have the capability—with either aircraft-launched or surface-launched weapons—to down those missiles or their launch platforms before they launch and with close in weapon systems to defeat the threat as it approaches the target.

That capability is clearly not as great now as we would like. Hence, the tremendous emphasis on obtaining increased AAW capability that our battle groups will have as our Aegis ships are joining the fleet. The first of these ships, as you probably know, is about 85 percent complete now, and we are looking forward to its arrival with very, very great interest and anticipation.

Mr. Spence. That is what I was getting at. I don't think we realize the need we have for the Aegis system, and to get them to the forces as fast as possible, because our existing fire control systems, I don't think, can handle all of the various and many targets that would be coming in. They would overwhelm our systems that we have right now.

Admiral, how long do you think it is going to take to build these two nuclear carriers from the time the keel is laid?

Admiral Trost. From the time the keel is laid is about 5 years. The time from authorization is closer to 6 or 7 years. I could go into a little more detail on the CVN-72 and 73 right now. If both ships are authorized and the money appropriated in the 1983 budget—and the authorization is key, for if a shipbuilder knows he can buy for multiple units, he knows he can maintain a level work force, and he knows he can proceed with work in a structured manner—if both those ships are authorized and appropriated in the 1983 budget we would expect delivery of the first of those ships in 1989, late 1989. So we are talking here of a time frame from authorization of about 7 years to delivery.

Mr. Spence. That time is cut by——

Admiral Trost. That time is cut by almost 2 years, by 22 months per ship, based on the ability of the shipbuilder to procure items in multiple numbers and, therefore, shorten the lead time and also by his ability to do a more orderly material acquisition and component fabrication job than he would otherwise be able to do.

Mr. Spence. We hear that the Russians are building a similar type large deck nuclear carrier now. How long do you think it would take them to build a similar type ship?

Admiral Trost. I am not certain how long that particular ship might take them. I have seen some indication that a study of their shipbuilding habits or ways of doing business compared to ours, led to roughly equivalent construction time frame, although the period between, let us say, the launch and delivery is frequently less, reflecting more time spent while on the building ways, in fabrication and completion of systems.

Mr. Spence. I think my time has run out but if I can just get in the last question about the small deck carriers, I know we have a report coming and all of that, but you referred to it a couple of times. We studied and restudied this thing for so many years. Could you just give us in a nutshell your feeling about the small deck carriers?

Admiral Trost. I would. Certainly the small deck carrier can be a competent combatant at sea. The Navy's preference for the larger deck has been a recognition of the fiscal constraints we face, and the likelihood of not being able to achieve large numbers. There is a certain minimum number of large deck carriers required, reflected we think by that 15 carrier battle group level which I have discussed. It represents that minimum number of large decks necessary to get enough TACAIR combatant capability to sea.

In addition to that, smaller decks, which would help us to distribute our tactical air capability, would certainly be desirable and smaller decks which could handle a V/STOL capability when developed, would certainly add to our combatant capability.

Mr. BENNETT. Mr. Trible.

Mr. TRIBLE. Thank you, Mr. Chairman.

Admiral, I am interested in the progression of thought in the area of submarines. When I first arrived in Congress, the administration and the Navy said we needed a minimum force of 90 submarines. Last year, that number was advanced to 100 submarines and this year I note you say 100 nuclear submarines. All of that is good news for me and for America, but tell me how are we going to achieve that minimum force level of 100 nuclear attack submarines when the Navy proposes to build just two attack submarines in the next fiscal year?

Admiral TROST. May I respond to your initial question or concerns first and then I will proceed.

Mr. TRIBLE. Please. But don't filibuster.

Admiral TROST. No, I will be simply responding to your inquiry. Your confusion is based on the following: When you first came to Congress the Navy did, in fact, state that its affordable and likely achievable force level for submarines was approximately 90. That was also in recognition of the fact that that force level wasn't enough to do all the tasks and that there were classified studies and classified statements of requirements that recognized a much higher force level goal.

We have since that time decided that we had better be able to afford more and have put our assets into a higher level SSN force because there is a very definite requirement. So the current goal is higher. The current goal looks at the nuclear attack submarine because they are achievable, because they reflect the capability that we see as necessary, and because we also take into account the fact that our current force count includes only a few deployable and capable non-nuclear submarines.

Now, how do we hope to achieve that level? The addition of the older Polaris submarines, which no longer have a strategic mission, to the list of attack submarines has given quite a boost to our current force level, as has the delivery of seven SSN-688 class submarines last year to the Navy.

We would, by about 1984, achieve a force level close to the goal of 100 submarines. However, as some of our older nuclear attack submarines are decommissioned, those that were built in the late fifties primarily, we again see a falling off of force levels.

You are correct that we have to build more than the two attack submarines in this year's budget in order to achieve that level. If we are successful in production in the future of a minimal level of

3 or 4 per year, we can build to and sustain a level of 100 nuclear attack submarines.

Mr. TRIBLE. So we do need to increase the procurement of attack submarines in order to maintain that minimum force level?

Admiral TROST. We certainly will.

Mr. TRIBLE. Tell me about the aircraft carriers. I am obviously intrigued by the proposal of the Navy that we should build two nuclear aircraft carriers and there are some substantial savings to the taxpayer in total cost also, if we can accelerate the procurement of those ships. Can you discuss that for a moment?

Admiral TROST. Yes, I can. As I noted earlier, there is a military advantage from our prospective because those ships in fact would be delivered and be deployable units of the fleet some 22 months per ship earlier. There is a considerable fiscal advantage accruing to the country by the fact that the multiple procurement or multiple authorization would permit the shipbuilder to proceed in a more economical and efficient fashion.

The early delivery would mean we save the money which is attributable to the cost of inflation in those years while the ship would otherwise still be under construction. The total cost savings which we anticipate are of the nature of $750 million in the timeframe in which those two ships would be built or delivered.

Mr. TRIBLE. A substantial sum of money even by Washington standards.

Admiral TROST. It is a substantial sum.

Mr. TRIBLE. I will defer further questions.

Thank you, Mr. Chairman.

Mr. BENNETT. Mr. Dyson.

Mr. HUTTO. Mr. Chairman, may I ask unanimous consent to be recorded "aye" on the previous vote?

Mr. BENNETT. Without objection, so ordered.

Mr. DYSON. Thank you, Mr. Chairman.

Admiral, in describing the Navy force goals, and in reaching this goal of the 600-ship Navy by 1990, you listed a number of characteristics that reflected key principles that you had discussed in your prepared statement. I think you are familiar with these, but I will read some; the 4 battleships, the adequate number of Aegis-capable interaction battleships, surface combatants, 100 nuclear attack submarines, and it goes on in that list. Let me ask the question again that the chairman touched upon a short time ago and ask you if you would explain a little bit further.

In anticipation of the Navy reaching the goal of 600 ships by 1990, will that fleet in 1990 meet all of the force goals you outline in your statement, and if not, obviously we have some question there, as to what areas will be short Aegis.

Admiral TROST. There will be several shortfalls from the goals which were stated there. Specifically, unless we reactivate and recommission 1 of our older *Essex*-class carriers we will not achieve in this decade the 15-carrier goal. We will in 1987 get to a level of 14 carriers, and then back down to a level of 13 in the period at the end of the decade, and, of course, this includes the delivery of the 2 nuclear carriers we were discussing in the 1983 budget request.

Mr. DYSON. Did your statement anticipate 15 large-deck carriers?

Admiral TROST. My statement?

Mr. **Dyson**. I mean is that programed into that? Do you anticipate that? Are you saying to me now the only way you are going to meet that is by recommissioning?

Admiral **Trost**. In the near-term the only way we meet that goal is by reactivating at least one of our older carriers. In the long-term, the way we meet that is by construction of two aircraft carriers now under construction and by the replacement of older carriers as they reach the end of their service life with new construction in the decade of the nineties.

In addition to the carriers, as I noted earlier in response to Mr. Trible, there will be a force level of nuclear attack submarines which will be near the goal, but that actual level will be determined by the new construction authorizations in the latter half of this decade.

The balance of those forces will be substantially achieved with the exception of the amphibious force levels. We will have considerably enhanced our capability but we will not have achieved the level of amphibious forces noted in that goal primarily because so many of our amphibious forces will reach the end of their useful service life late in the eighties and in the early to midnineties. So the new construction coming in will be primarily more capable replacement ships.

Mr. **Dyson**. Another question. On your CVN acquisition strategy which you anticipate saving $750 million, and this is by funding, planning that change that you envision, which by the way, I think is a good idea, you are hearing all kinds of talk about cutting in defense and from rather significant people in the Appropriations Committee, and I won't mention any names, but if that is delayed, what is going to happen?

Admiral **Trost**. I would have to speculate and suggest that Mr. Sawyer can give a more responsive answer this afternoon, but in brief, as I see it we would go back to the previous normal one for one acquisition strategy. We would fund long lead time requirements. We would receive delivery some 22 months later for each of the ships. The contractors civilian work force levels would vary widely and his ability to efficiently produce a certain volume of ships would decrease and, of course, we pay the price in both time as well as in higher costs of the ship itself.

Mr. **Dyson**. The date you gave Mr. Spence, 1989, that was for the two ships. Would you anticipate in 1989 and then another 1, 2, or 3 years later?

Admiral **Trost**. That is correct. If the two ships are authorized concurrently, one is expected to deliver in December 1989 and the other in December 1991.

Mr. **Dyson**. Thank you.

Admiral **Trost**. Construction, I might note, some construction would begin even on the second one very early on.

Mr. **Dyson**. Thank you, Mr. Chairman.

Mr. **Bennett**. Mr. Emery.

Mr. **Emery**. Thank you very much, Mr. Chairman.

Admiral, last year before this subcommittee, the Deputy CNO for Surface Warfare stated, "The minimum frigate level that we feel that we need is on the order of 100 ships. In order to maintain 100 ships with a nominal life of 30 years we have to build 3 or 4 ships per year."

Does that statement still hold?

Admiral TROST. Mr. Emery, I can't tell you whether that is the exact statement, whether that still holds, but I suspect the answer is probably yes, over a period of time. Our frigate level goals are being reevaluated now with the decision to place some of the FFG-7 *Perry* class into the Naval Reserve along with some of the earlier FF-1052 *Knox* class. I believe Admiral Walters will discuss those levels in detail with you when he appears. I would like to defer a more substantive answer to him, if I may.

Mr. EMERY. I will certainly raise that question with him. In light of that estimate that I just quoted, and the fact that there are only two FFG's in the 1983 budget, are we facing a situation, in your opinion, whereby the minimum force level in frigates is likely not to be met?

Admiral TROST. I think what we face, Mr. Emery, is the likelihood of achieving a certain set numerical goal which is stretched further into the future. I would have to note once again we would be faced with the requirement to provide a balanced program within a certain constraint and our frigate goals and our submarine levels, or submarine goals probably moved a little further into the future than we might like.

Mr. EMERY. Given the schedule of procurement I think 12 remaining frigates—is that right—to be built so far as we know?

Admiral TROST. Approximately 12.

Mr. EMERY. Is there any advantage or cost savings to the industrial base, to build three frigates a year during the next 2 fiscal years rather than procuring only two, and procuring three, I think, in 1985 or 1986, the schedule I last saw?

Admiral TROST. We are, of course, interested in doing all we can do, not only to maintain but enhance the industrial base for shipbuilding in this country, to maintain our naval vessel force levels as well as to provide the overall capability for our complex of combatants.

Assistant Secretary Sawyer plans this afternoon I believe to discuss with you in some considerable detail the industrial base and how it is impacted by our force level of construction.

Mr. EMERY. Admiral, last week before the Senate Armed Services Committee the Secretary of the Navy said that as long as the U.S. Navy achieves its goals, 600 ships by the end of the decade, he is not concerned how many more ships the Soviets build. Is that the Navy's view? Do you feel that is not a concern?

Admiral TROST. There was a considerable addition to that dialog, I believe, which you probably have seen. He made a statement I believe at one point that he was not concerned. I believe the Chief of Naval Operations indicated that the minimum force level goals for which we are aiming gives us that capability, with a level of risk that might be considered reasonable, to do necessary operations in a sequential fashion against what the Soviet threat will be.

I think our view would be that the likelihood of the Soviet Navy achieving a greater capability is certainly there and that given that greater capability, there is certainly a possibility that as we proceed toward that time frame, more capability is necessary on our part to counter what they put to sea.

Mr. **Emery**. How would you recommend that we respond if we see a substantial increase in the number of *Alfa* submarines, *Kiev*-class carriers or *Kirov* cruisers and the like being constructed in the Soviet Union? Supposing they should double their procurement rate, how would we best respond?

Admiral **Trost**. I would think for the near term the best effort would be to proceed with the force levels and acquisitions of forces that we would have set forth and then, once we have achieved those forces, we have a better idea of where we are going if additional forces are required to counter an increased Soviet threat.

Mr. **Emery**. According to statements that the Secretary of the Navy has made and others have made, we consider most of the oceans of the world as being critical areas or vital areas. Are you comfortable that a 600-ship Navy is capable of defending American interests, keeping sea lines of communication and vital supply routes open, given the critical nature of most of the oceans?

Admiral **Trost**. I am confident that that level of forces can give us a reasonable assurance of being able to meet both the economic as well as the security requirements of our country, yes.

Mr. **Emery**. How many escort ships do we have in the fleet today and how many open-ocean type frigates do our allies deploy. Can you tell us those figures?

Admiral **Trost**. I haven't those exact numbers and, if I may, I will supply that for the record and also request Admiral Walters provide them tomorrow. He will be giving you the detail when he testifies tomorrow. He is the Deputy Chief of Naval Operations for Surface Warfare.

[The following information was received for the record:]

U.S. and Allied Open Ocean Escorts

The U.S. Navy has 103 escorts (DD/FF/FFG) in the fleet today. Our NATO allies have 196 open ocean type frigates while our allies in the Pacific have 61.

These are gross inventory numbers and do not account for factors such as maintenance availability, or national interest commitments, (e.g., protection of regional shipping lifelines) which effectively reduce the number of escorts that would be available for open ocean escort missions..

Mr. **Emery**. I have no further questions at this point, Mr. Chairman.

Mr. **Bennett**. Mr. Hartnett.

Mr. **Hartnett**. Thank you, Mr. Chairman.

Admiral, I apologize for being a few minutes late. I have a couple of questions. I have briefly studied your remarks. I don't know whether you read them verbatim or submitted them for the record, but this member is somewhat concerned about our inability to respond with mine countermeasures and our ability also to be offensive with our minelaying capabilities.

I know you are going to tell me we have a small mine fleet being constructed now or certainly on the drawing boards, but a few years ago we had in excess of 175 to 200 minesweepers. I am reminded during the Iraqi-Irani war that the United States had to call upon the French and their minesweeping capabilities to sweep in the Gulf of Hormuz or to be standing by to do that if they had to, because we were incapable of doing it.

What do you think, what is your opinion of our mine countermeasures and also, our offensive ability to lay mines in the event that it were necessary to do so? Do you not feel this is an important part of our naval arsenal or whatever you want to call it, to have a strong mine warfare capability?

Admiral **Trost**. A complete answer to your question would be yes. I believe that the capability we have is inadequate, and I believe it is a capability that is extremely important as a part of our overall combatant strength.

We have for a number of years failed to fund adequately this very important aspect of our Navy. We now face the absolute need to build ships which, as you have noted, we are building. We are doing work in the mine countermeasures, and mine warfare area to enhance our capabilities. But we are still a few years away from having a mine warfare capability that would make any of us feel very comforable.

Mr. **Hartnett**. Admiral, is it true we did have to call on the French during the Iraqi-Irani war to either move in there or to stand by to move in to do some minesweeping?

Admiral **Trost**. May I put it this way, as Commander of the 7th Fleet during that time frame, I recognized the fact that U.S. minesweepers would have had to come from the west coast of the United States and would have taken a very, very long time to get to the scene. The onscene capability which we had was reflected in our airborne mine countermeasures capabilities. The French military had in the port of Djibouti five minesweepers to be called on.

Mr. **Hartnett**. It is my understanding, Admiral, we only have three active duty minesweepers in our whole force. I know we have our helicopters and our other minesweeping capabilities, but the *Fidelity* I think down at NSCS or whatever the place is in Panama City and I think there are two others at Charleston, and we have some 18 or 19——

Admiral **Trost**. Twenty-two are Reserve.

Mr. **Hartnett**. Reserve. Do you not feel that our mine countermeasures could be, because it is not something we need to do except in the event of probably some type of offensive move on the part of a potential adversary, it is not something that could be turned over completely to our Reserve components of the Navy? Could we not turn over our mine countermeasures completely to the Reserve components of the Navy?

Admiral **Trost**. I think we would probably in the future, want to maintain some capability in the Active Forces. But I do believe that a great majority of that capability can be placed in our Naval Reserve Forces.

Mr. **Hartnett**. Obviously, since they have 21 or 22 ships, they are now I guess comprising the largest part. I think that is the number of ships assigned to our Reserve Fleet.

Enough of that. Let me ask you one more question, if I may, Admiral. Do you think it is practical to think in terms of smaller, cheaper ships as the answer to the Navy's force level problems that they have?

Admiral **Trost**. In toto, no, I do not. As I did describe earlier, we face a combination of requirements. We have to be prepared to provide the necessary strategic capability which is the Navy's portion of the Nation's nuclear deterrent and the Trident, of course, is a complex ship.

We also have to have forces which can prevail successfully in combat against the most sophisticated enemy, or operate successfully in the so-called Third World contingencies where nonetheless some highly sophisticated weaponry may be coming at our forces, and we have to have the capability to forward deploy our forces to add the regional stability to an increasingly unstable world.

You can do some of that with inexpensive potential enemies noncomplex forces. But if you haven't the capability to stand up to a potential threat, you also have no credibility and you might as well not go.

Mr. **Hartnett**. Thank you, Mr. Chairman.

Mr. **Bennett**. Mr. McDonald.

Mr. **McDonald**. Thank you, Mr. Chairman.

Admiral Trost, in your presentation this morning on your fourth slide you had a map of the world, a continuation of slide No. 3. In that, you spoke of the various crisis points and I was just curious, to the center part of that slide it refers to a 1978 crisis in the area of Central America, maybe El Salvador or the Guatemalan area. What crisis was that that the 1978 line refers to?

Admiral **Trost**. I am going to have to speculate, Mr. McDonald. I suspect that was U.S. Forces off the coast of Nicaragua during the time of the Sandinista takeover down there.

Mr. **McDonald**. Our Government did everything they could to help them take over. I didn't know we had to use forces. But the takeover was not until July 1979.

Admiral **Trost**. Let me provide for you a good, honest answer because mine is speculation. Naval forces have frequently been deployed off these coasts to demonstrate interest, as is now being done.

Mr. **McDonald**. Of course, as you probably know, I think most of the key military buildup and activities on the east coast of Nicaragua is at the present time at Bluefield and the Puerto Cabezas area. But in 1978, as I said, the transition to Nicaragua, a lot of problems in Nicaragua were in 1979, with the transition taking over in July 1979. Just frankly, I was unaware of any particular notable activity as recognized by this Government at least in that area in 1978. I am unaware of any crisis point that presented itself because we certainly, if we were there in 1978, it was to prevent shipment of any arms to the legitimate elected Government of Nicaragua.

My understanding is that we did stop a ship that was enroute from Israel to Nicaragua where the arms had been already purchased. It was our Government's policy to actually stop the ship, turn it around and send it back or send it someplace, but the arms never arrived. That is the only naval action, and I think that was handled by the State Department. I don't think the Navy got involved. I don't think it was a matter of even stopping a ship.

Admiral, a little bit out of and moving away from your area of Navy programing, you certainly have a very distinguished career in the Navy, and you have had quite a bit of experience in the submarine program. I would like to ask you, back when you were first in the nuclear submarine programing, back in the fifties, it is my memory in the fifties and sixties that aboard the nuclear submarines you did have physicians aboard, is that correct?

Admiral **Trost**. That is correct.

Mr. **McDonald**. Do you still have physicians aboard the nuclear subs now?

Admiral **Trost**. No, we do not. You may recall also that at that time much of the radiation health programs were handled with medical personnel and we subsequently transitioned to the use of regular nuclear-trained personnel to handle those aspects, and we also phased our doctors out of nuclear ships and ultimately also out of the Polaris submarines.

Mr. **McDonald**. Did you feel that having the physicians aboard was a plus, or probably looking back, if you had your way, if you could do so now, would you prefer to have physicians on board now? Do you really feel like probably having them in a sub tender situation is probably quite adequate? What is your personal view?

Admiral **Trost**. I would say I would always feel comfortable, when I was deployed in an isolated environment, to have a physician on board, and the level of competence of both our doctors and enlisted corpsmen was very, very high. I would have to note, however, that at a time when medical assets are short, I am comfortable with having them in the tenders. I think there are better ways to use that scarce talent.

Mr. **McDonald**. Are you sad, Admiral, as one who has been in the Navy now I guess 30 years or right at it, are you sad with the quality of medical personnel coming in now? Of those on sub tenders this is not a fair question to you, I admit—but what percent of those aboard the sub tenders are graduates of U.S. medical schools? Do you have any idea?

Admiral **Trost**. I cannot answer the question. I have not been associated directly with the submarine force since the early seventies and I don't know.

Mr. **McDonald**. I guess at that time we still had the draft situation?

Admiral **Trost**. We did have.

Mr. **McDonald**. Are you comfortable now with the peacetime situation, let me say the nondraft situation, voluntary, are you comfortable with the quality of medical care that you are running into, that you are hearing about? Not only just the hospitals, but particularly out in the field, out at the real working level of the Navy as opposed to say Bethesda Naval Medical Center?

Admiral **Trost**. I would have to again limit my responses to my recent experience, which would be to say I was comfortable with the level of care provided to my personnel in the Western Pacific and Indian Ocean areas and comfortable with the care presented to the dependents of those people that have a home base in Japan.

Mr. **McDonald**. But that was in the sixties and seventies.

Admiral **Trost**. No. This is now up to 5 months ago. In the sixties and seventies I had no real problems. I heard of occasional complaints about the level of capability, and I suspect that there may be areas in which we have not the level we might be seeking.

I can't give you a full answer. I would rather provide a good, honest evaluation for the record.

Mr. McDonald. Thank you.

[The following information was received for the record:]

Admiral Trost. The quality of Navy Medical Care in the field is good and getting even better. In response to your comment concerning numbers of foreign-trained doctors serving in the Navy, the table below shows more emphasis is being placed on recruiting graduates of United States medical schools. Since more U.S. graduates are available, fewer graduates of foreign medical schools need to be recruited.

Fiscal year	Authorized total physicians	Foreign graduate or alien	Foreign graduate or alien percent of total
1977	3,482	369	10.6
1978	3,476	415	11.9
1979	3,577	440	12.3
1980	3,602	431	12.2
1981	3,548	362	10.2
1982 (to date)	3,686	287	7.8

Numerous initiatives have been taken to improve the quality and availability of medical services available at Navy Medical Centers as well as in the field and afloat. Quality review and risk management audit programs have been established at all of our medical centers. An important part of this quality review process is that the Surgeon General of the Navy now requires each physician to be approved on an annual basis to provide certain types of medical care. We stress the importance of being able to transfer skills learned during peacetime to the wartime environment. In order to facilitate the transfer from the hospital to the field our physicians are now undergoing training at the Army Combat Casualty Care Course (200 last year and 400 this year). Continuing use of this course is planned. For the enlisted hospital corps personnel the curriculum at their basic school is being adjusted to include more field time and general operational orientation.

Mr. Bennett. Mr. Hutto.

Mr. Hutto. Thank you, Mr. Chairman.

Admiral Trost, let me follow up on Mr. Hartnett's questioning a few moments ago about our minesweepers. We have three now, and I believe, in our 600-ship Navy we are shooting for how many minesweepers?

Admiral Trost. That goal is 31.

Mr. Hutto. I would like to ask you about the alternate mission of our LCAC landing air cushion vehicles, about the possibility of their alternate missions. I realize clearly that the first mission is amphibious. But we were looking toward some alternate type mission, a possibility of laying mines, of using them as minesweepers, as a platform for missiles possibly, and a number of alternate missions other than amphibious, because of their, ability to go over water as well as land.

But it is my understanding that the Navy is not continuing to look to the alternate missions and I understand, as I said, the primary mission. But it seems to me we ought to be looking at this before we build too many larger ships, the possibility of using the LCAC. I wonder what your comment would be on that?

Admiral Trost. I am not familiar personally with the plans that were developed for the use of the LCAC. I do know that our greatest concern at present is our ability to buy enough of them early enough to meet that amphibious requirement. I would suspect with that capability fulfilled, that other missions would receive favorable consideration.

I would like also to pass that on to Vice Admiral Walters. I am sure he will address it to your satisfaction.

Mr. HUTTO. All right, sir, that will be fine. I would like to see the effort kept alive because sometimes when you drop these sorts of things it takes a long time to get them started again. I think we need to keep a program alive for our Reserves. It seems to me many Members of Congress feel we need to be doing more for our Reserves and it is my observation that seemingly the Navy, especially with regard to surface ships, that we are not doing as much as we could.

It is my understanding some of the frigates will be put into the Naval Reserve?

Admiral TROST. That is correct. As part of the upgrade of the capability of the Naval Surface Reserve Forces, we do plan a level of 24 frigates, these being modern, up-to-date ships that will be transferred from the Active Forces to the Naval Reserves. We are also building up a capability to insure the necessary maintenance facilities, manned by our TAR personnel, are also in place to support those ships.

Mr. HUTTO. Would these 24 be replacing other ships or be additions?

Admiral TROST. They will essentially be additions because most of the Naval Reserve destroyer force is obsolete and being phased out. As you know, there are only a few of those left.

The only modern ships currently in the Naval Reserve—when I say modern, I refer to ships which could be deployed and are combat capable—are currently six amphibious vessels, two newly arrived frigates of the FF-1052 class, and one destroyer, which is deployable. There are also several other older destroyers and, of course, the older minesweeper we referred to earlier. So the ships that are coming in, the frigates will be new additions, they will represent current capability from the Active Fleet and will be compatible in their operational capability with those in the Active Fleet.

Mr. HUTTO. Has the placement of these Reserve ships been determined yet?

Admiral TROST. That is under study and I don't believe it has been totally decided. Two of them, one in Long Beach and one in Newport, entered the Reserve forces in January. I don't know the plan downstream.

Mr. HUTTO. One final question. Would you elaborate, please, on the degree of your confidence concerning sealift mobilization and the tonnage required in an emergency situation?

Admiral TROST. We face, as you know, a considerable challenge in mobilizing enough sealift assets, especially since our U.S. maritime capability has declined rather markedly. There is a very comprehensive and aggressive program to build a better strategic sealift capability under U.S. Government-U.S. Navy control, to provide both for the necessary rapid deployment of Army and Marine Corps Forces, as well as to carry forward the equipment that they would need.

I think you will find in this afternoon's hearing that Assistant Secretary Sawyer is very conversant both with the programs and numbers of ships that are brought in in the near term to provide that sealift capability on short notice.

Mr. BENNETT. Any other questions?

If not, we certainly thank you. You have been a very helpful witness, and we appreciate your coming here. Thank you.

The subcommittee will meet this afternoon at 2 o'clock.

[Whereupon, at 11:30 a.m., the subcommittee was recessed to reconvene at 2 p.m., the afternoon of the same day.]

AFTERNOON SESSION

NAVAL SHIPBUILDING

The subcommittee met, pursuant to notice, at 2:04 o'clock p.m., in room 2212, Rayburn House Office Building, Hon. Charles E. Bennett (chairman of the subcommittee) presiding.

Mr. BENNETT. The subcommittee will come to order.

This afternoon we welcome the Honorable George Sawyer, Assistant Secretary of the Navy for Shipbuilding and Logistics. Mr. Sawyer is the senior civilian official responsible for the Navy shipbuilding program, and particularly for the business aspects of the Navy's shipbuilding program.

The President and the Navy have set forth a bold and ambitious program in the fiscal year 1983 shipbuilding budget with a request of $18.6 billion. In my opinion it is long overdue, and we are delighted to have it. This is more than twice the funding provided last year, and substantially higher than the fiscal year 1984 shipbuilding program.

Items of particular interest to the subcommittee include the benefits of developing a second source for the procurement of the CG-47 Aegis cruiser. We want to be sure that that is a fiscally sound or otherwise judgmentally sound decision. Second, the reasons for full funding of the two nuclear aircraft carriers, and third, what has happened with the Electric Boat Co. operations, both from the standpoint of the company and from the standpoint of the Navy, since last year's hearings to prevent funding for the two Tridents, which hearings did develop some imperfections on the part of both the Navy and the company. Particularly I am interested in seeing that the Navy has met those challenges and has them behind them or has something underway that is going to protect against future difficulties insofar as you can.

Mr. Sawyer is also scheduled to appear before the subcommittee on March 10 in a joint hearing with the Readiness Subcommittee. Because the Navy has proposed acquisition of T-AKX maritime pre-positioning ships by leasing, I would suggest that we postpone discussion of this program until that hearing.

Mr. Sawyer, as I indicated in my opening statement this morning, the fact that the Navy has not yet provided detailed budget justification materials may make it difficult for the subcommittee to complete its review in a timely fashion. That worries me. I would ask that you help us by seeing to it that the justification material is provided as soon as possible.

You know, if we are ready and able to go along, it is distressing to us to have the holdup which might prevent us getting the things that we need to get for the Navy.

Mr. Spence, would you like to make a statement?

STATEMENT OF HON. FLOYD SPENCE, A REPRESENTATIVE FROM SOUTH CAROLINA

Mr. **Spence**. Yes, just a short one, please, Mr. Chairman.

I want to alert my colleagues to what I believe is one of the most important shipbuilding issues that Congress will address this year, namely, the Navy's need to begin to replace a large portion of its aging cruiser destroyer fleet. Although the Research and Development Subcommittee has primary jurisdiction over the matter this year, the interest of the Seapower Subcommittee will be intimately affected by any plans adopted for warship replacement. I refer to the so-called DDGX program, recently named the DDG–51. The Navy plans to acquire over 60 of these ships. The fact is that this figure could reach about 100, depending upon the real life-cycle worthiness of some vessels currently in the inventory.

The fundamental issue concerning the DDG–51 is whether or not it will be constructed to take advantage of current advances in technology which provide for modular construction of warships and their weapons system, so that through the lifetime of the ship the weapons and sensor systems can be updated with minimum overhaul time and disruption to the ship's basic construction. Herein lies the potential for substantial cost savings in outfitting and overhaul evolutions.

This modularity concept reaches its fullest potential by establishing construction standards called ship's system engineering standards or SSES. It is an exciting idea, not necessarily new, but an idea whose time has come. SSES can revolutionize shipbuilding as we know it. The proper marriage of SSES and the forthcoming DDG–51 series ships or a varient of these ships should evoke the special attention of Congress in all shipbuilding programs.

Thank you, Mr. Chairman.

Mr. **Bennett**. Mr. Secretary, you may proceed.

BIOGRAPHICAL SKETCH OF HON. GEORGE A. SAWYER

On 19 May 1981, President Reagan announced the selection of George A. Sawyer to be the Assistant Secretary of the Navy for Shipbuilding and Logistics. He was confirmed by the Senate on 16 June 1981 and took the oath of office on 23 June 1981.

Mr. Sawyer is a 1953 graduate of Yale University and has been associated with major marine, engineering and construction projects for many years.

While serving with the U.S. Navy, Mr. Sawyer was an early participant in the nuclear submarine program, including the prototype development and initial service operation of the first multi-nuclear propulsion installation.

In 1963 Mr. Sawyer joined Babcock & Wilcox as Nuclear Power Coordinator-Marine Projects, where he was involved in the development and application of the NS SAVANNAH and other nuclear ship projects. He is a co-inventor of the Consolidated Nuclear Steam Generator. He subsequently held the position of Manager, Marine Systems with NUS Corporation and Batelle Memorial Institute.

In 1969 he joined Bechtel Incorporated as Manager of Environmental Systems and held a number of management positions with that company. His last position was as Manager of Eastern Operations and Vice President of International Bechtel Inc., responsible for Bechtel's port and other major transportation projects in the Middle East.

Mr. Sawyer served as President and Chief Executive Officer of John J. McMullen Associates, Inc., from September 1976 to April 1981.

He is the author of several technical papers. He is a member of the American Society of Naval Engineers and the Society of Naval Architects and Marine Engineers, and is on the Committee on Nuclear Applications of the American Bureau of Shipping. Mr. Sawyer also served on the Board of Directors of the Shipbuilders Council of America.

He was born on 20 April 1931, in New York. He and two of his three children currently reside in Red Bank, New Jersey.

STATEMENT OF HON. GEORGE A. SAWYER, ASSISTANT SECRETARY OF THE NAVY FOR SHIPBUILDING AND LOGISTICS, ACCOMPANIED BY VICE ADM. EARL FOWLER, COMMANDER, NAVAL SEA SYSTEMS

Mr. **Sawyer**. Thank you very much, Mr. Chairman.

It is a pleasure to be here today before this very fine committee who has supported defense, and in particular, the Navy, for so many years. I am particularly gratified for the support this committee has given this administration with regard to the fiscal year 1981 supplemental and the fiscal year 1982 authorization, in which we are able to get started with the 600-ship Navy.

I have prepared testimony which I would like to introduce for the record.

Mr. **Bennett**. Without objection, it is so ordered.

Mr. **Sawyer**. Thank you, sir. In addition, you will notice Vice Admiral Fowler, the Commander of the Naval Sea Systems Command, appears with me today to help answer any questions you might have.

As indicated, I intend in these informal remarks to address primarily the business issues relating to our 5-year program, but with particular emphasis, of course, on fiscal year 1983 shipbuilding. Basically, I believe you heard from Vice Admiral Trost this morning with regard to our ship counting and how we intend to achieve the basic force levels and mix which we feel are important in obtaining objectives.

I think obviously and rightly so the key focus of the Congress this year will be on what kind of 600-ship Navy we must have. We are appreciative in the Navy to the resolution passed by the Congress at the end of last year generally supporting the concept of a 600-ship fleet. Of course, the name of the game from here on will be what kind of ships we will build.

I feel that the program we have outlined is eminently achievable in terms of both its physical feasibility and its affordability. A large part of this, in my opinion, will be in tailoring the acquisition strategies. We must have the courage of our convictions to tailor acquisition strategies which will achieve our objectives at the lowest possible cost to the taxpayer and with the least possible infringement on national economic recovery or disruption to our industrial base.

At the same time, I think we have to be realistic and remember that there are no magical formulas in contracting methodology or terms and conditions that will automatically solve problems relating to management of this enormous investment. As you know, we already are on the way toward the 600-ship Navy objective. There were 479 deployable ships when this administration assumed power. We now have 510 ships. By the end of 1983, we hope to be at 535, and our 5-year shipbuilding program should achieve a 600-ship Navy before the end of this decade.

To indicate the current tempo of activities, and not wanting to steal too much of Admiral Fowler's thunder, who I know will appear before this committee to present the Navy's shipbuilding programs in detail, some statistics might be appropriate here.

Just speaking for the U.S. Navy—in other words, excluding foreign military sales—we currently have 87 ships in construction. We plan to deliver 22 ships in 1982, and 25 ships in 1983. Of the 54 ships that we delivered in 1980 and 1981, 16 were delivered early, 16 on time, and 12 late. That, of course, includes the nuclear submarines at Electric Boat and elsewhere. Our 5-year force building plan for ship construction outlines 133 new construction ships and 16 major conversions. This excludes our intention to build under a charter arrangement—which the chairman has indicated we will get into next week—12 to 15 of the T-AKX class ships and five T-5 tankers. Our total obligational authority request for 1983 in SCN is $18.65 billion.

I might add just briefly on aircraft procurement that our 1983 plans are to build 288 primary aircraft, and hope to achieve a total construction over the 5-year program in aircraft procurement of over 1,900. Our 1983 aircraft appropriation request is $11.68 billion.

A few words with regard to affordability, and of course this has to be addressed in the total global context of the Navy in relationship to defense and the defense relationship to the Federal budget, and the Federal budget and its relationship to the total economy of the United States. As a point of reference, we did a little research and compared our total procurement requests, and in addition the total Department of Navy obligational authority request to 1966. Our total Department of Navy obligation request in 1966 represented about 12 cents of the Federal budget dollar. Today our request in 1983 represents about 11 cents, or 11 percent of the Federal budget.

In procurement, in the midsixties, we were averaging around 7½ cents of every Federal budget dollar, and our 1983 request represents 7 cents. So we think we are basically on a balance in terms of the more narrow measurement of the Federal budget, and about where we were in the midsixties.

Is our procurement emphasis properly placed? In other words, I think many will ask the question, are we overprocuring and stealing from readiness? My testimony includes a pie chart which basically indicates that for 1983 in terms of TOA, readiness and sustainability will still consume over 50 percent of the budgetary request.

Most importantly, can we achieve the program physically, and how best should we do it? I am sure you will hear testimony this year from representatives of the shipbuilders which indicate support of my thesis that our current shipbuilding base is really more than adequate to address and successfully achieve the program request before you. In fact, in my opinion, with the current dearth of merchant ship construction in the United States, we have more than ample capacity. In fact, we may likely see the situation wherein certain primary shipbuilders, those which, say, represent the approximately 25 yards or so constituting the major shipbuilding base of the United States, will be in financial difficulty.

We have prognosticated both construction and Navy overhauls in the recent past and near future. It appears that we, the Navy, currently take about 60 percent of the private industrial manpower base in construction and overhaul. Looking ahead, it would appear that it would remain at about that figure, between 60 and 66⅔ percent. That is a high fraction, but a perfectly logical one, particularly now, with the lack of commercial orders.

Private shipyard investments in my opinion also have shown a very different philosophy than 10 years ago. They are investing in the future. They have been enhancing their productivity. There are a number of specific examples which are relevant to the Navy, particularly relevant to Navy new construction. These include developments both at Newport News, past developments relating to our nuclear carriers and future plans of that shipyard, and also programs at Todd in Los Angeles, very significant plans there with regard to facility expansion which would have immediate relevance to our current frigate program and future destroyer programs.

There are many other examples. We estimate that about $190 million was spent by our major private yards in 1981 in capital improvements, with plans in the next 2 years of over $200 million. I cite this as a point because I do not think our primary shipbuilders have been just sitting back. We see decided improvements with regard to performance and productivity. Business management considerations enter into the picture.

You are, of course, familiar with the Carlucci initiatives. I do not want to repeat all of those here today, except to pick out those initiatives that I think are particularly relevant to shipbuilding. To me, the basic element of these initiatives and indeed for all procurement of a complex type is a stable program. I think we are all familiar with past programs where basically we would present a 5-year shipbuilding program which could be summarized as budget for the next year and wish for the out years.

Now, in many cases it takes 5 to 7 years to build a complex warship. With a physical construction span of 5 to 7 years, and a real planning and budgeting scenario of 1 year, we constantly will run into difficulty. Shipbuilding, or any large construction project, requires stability. It is a difficult problem. It is a difficult problem for both of us, those of us in the administration and those of you in the Congress who together as partners must, of course, guide, plan, and ultimately manage our growth in defense.

I feel we have to have the conviction to decide on what we want to buy, stand behind those convictions, and then have the courage to go ahead and implement an acquisition program tailored to that conviction. It provides clear and unambiguous signals to our industry, and it requires us to have discipline with regard to constant change. Thus, I will talk about some of the specific initiatives, all of which relate to that fundamental precept.

Let me first address multiyear procurement. We are embarking on a number of multiyear procurement programs. For example, we signed our first multiyear procurement contract in aircraft 3 weeks ago with the Grumman C-2. We estimate our savings there at about $58 million. The current programs that we have on the burner for multiyear procurement we feel will save about $350 million.

Now, this excludes the nuclear carriers. The commitment request for the two nuclear carriers in this year is, of course, a very dramatic form of multiyear procurement. We are calling it a tailored multiship procurement strategy. We estimate by this commitment a savings of over $750 million. About 40 percent of that would be in escalation, but the balance, we feel, is in real hard savings, dollars and cents savings—due to economic ordering both on the Government's side and on the contractor's side, savings in man hours and time-related expenses, leveling the manpower base which is related to that, and achieving real production learning, and about $100 million additional saved by reduction of nonrepetitive and startup costs.

We have gone through the numbers. We welcome the current review by the GAO and its assessment of our numbers. We feel confident that by this approach, assuming that we want to achieve the goal of 15 carrier battle groups, this approach toward procurement is the proper way to go. We have other examples in this area. Our oilers, the TAO program, which will be a multiyear form of contract. Among the aircraft, I mentioned the C-2. Next year we plan several other programs of a multiyear nature.

Another acquisition initiative is economic ordering, in other words, establishing a rate of procurement which achieves savings as opposed to sort of dribbling production buy-out. This primarily, of course, applies to our aircraft and weapons accounts, shipbuilding being rather unique in terms of its size, magnitude, and time consequences. But there is some application of economic ordering principles in shipbuilding well. For example, our procurement of FFG's and CG–47's. P^{3}I, or what we call preplanned product improvement, ties in very well with the idea of a stable program, in that we plan to introduce in our major changes through block upgrades, instead of constant change, continual change, and the tremendous attendant costs in engineering, management, and disruptive impact on a builder.

I feel very strongly that we have to discipline ourselves and tailor what we want to change, package them all together, and at the proper time introduce them into the line of what we are procuring.

Let me address competition. This is an element in the CG–47 program. We obviously have to be selective here, particularly in our large shipbuilding programs, and apply the principle of competition where we believe it makes sense in terms of both the rate of production and the total quantity we intend to buy. Again, I go back to the point of a stable program and the conviction to proceed toward the objectives represented by that program. It would make no sense to break out and second source a CG–47 if our intent is only to buy one or two a year. But in our 5-year plan, we have programed construction of 17 of these ships, with an ultimate force level of somewhere between 20 and 25. They are extremely effective vessels, in our opinion. It is representative of the type of ship that our expanded battle force requires.

Now, at the rate of three or four a year, and with the forthcoming program of the DDG–51, where we further this technology, the

Aegis radar and expanded command decision and weapons delivery technology into our destroyer fleet, we feel the second sourcing now will help prepare our industrial base to be ready for the DDG program, so that we have more than one shipbuilder familiar with the program.

At the same time, I feel strongly that the competitive aspects in the out years will pay for themselves and for the additional startup costs involved this next year.

Finally, I want to talk about prioritizing and tailoring our procurement to end use. The objective of this is to do it cheaper and to do it faster. By this, I mean I think we need to be selective and tailor our whole engineering, contracting, and construction approach with recognition of what it is that we are buying and its end use, specifically programs such as the SL-7's, the T-AKX's, the hospital ships—basically, our auxiliaries or commercial sealift oriented ships.

I strongly feel they should be procured using, to the extent possible, commercial practice. It is a well-defined practice in industry today. It has become extremely well defined in the last 5 years. It is a worldwide practice whereby the client basically stipulates to the shipbuilder a functional specification. The shipyards then competitively work up their contract designs, and we contract on some very tight basis, on the basis of the contract designs prepared by the shipbuilder.

Our SL-7 program already is working in that vein. I am sure you will hear more on that subject either through questions or next week. It is a form of tailoring the program to the end use of the product.

Let me talk specifically for a couple of minutes, if I might, on contracting, and contractor-client relationships, and what we have attempted to achieve, the image, let's say, as a client to our contractors over this past year. I believe strongly that we must be flexible in our contracting policies. In other words, again, the contract should be tailored to the product that we are buying, the level of technology and sophistication of the item. A fundamental precept is, I think we should be reasonable. We should share the risk in an equitable fashion and be fair.

We believe in the carrot and the stick with regard to incentivizing performance. The major objectives, of course, are price and performance. Thus, in our current policies for lead ship construction of a complex new warship such as the CG-47 there is a tendency that we will use the cost-plus-award-fee approach. As the program matures, we will gravitate toward fixed-price incentives and in a fairly mature program our share lines on such as incentive fee contract would be very tight.

You heard of the 50-50 share lines that were applied in the SSN-688's for which we contracted with Newport News and with Electric Boat just recently. Thus the contractor is incentivized to perform. If he brings in his ship under target, that is, ahead of schedule—he will be rewarded.

Another element in incentivizing performance and a specific example is a recent contract modification that we made with Newport News for the early delivery of CVN-71, the *Theodore Roosevelt*. We have established an early target delivery date for that ship of 14 months. Based on our evaluation of the savings to ourselves and a negotiated bonus or incentive fee to the contractor, we expect to achieve a saving of $74 million.

Now, in terms of being fair, I feel we should be tough also. We have attempted to deport ourselves accordingly in cases where we felt the contractor was being unreasonable or unjust. We have also tended to standardize our contracts now, and I think we really have achieved an amazing amount of standardization in our major shipbuilding contracts by achievement of a certain philosophy, and then getting terms and conditions in accordance with that.

This is very important, because I think we can speed up contracting. In practice, it seems we are indeed speeding up our contracting process. After all, the one delay that we can all do something about is the delay between appropriations and contracting. There is no reason that we shouldn't move off very smartly to a contract stage once funds are appropriated for ships. In many of our programs today, we keep our principal contractors involved at the front end of the process, so as the design evolves, they participate directly in the design.

As I mentioned earlier, in the case of commercial-type ships, he may actually perform the design. But even in the more complex warships, our shipbuilders are involved, usually several of them, so that we maintain competition and so that they are constantly aware of the evolving design and technology. In fact, we have them look at the producibility aspects of the thing that we are doing. Again, I think this is all consistent with modern shipbuilding practice.

In talking about our major contractors, I also want to state that we intend to maintain a momentum in small business contracting. NAVSEA had an excellent year last year. They had a 50-percent achievement over the goal in small business set-asides, contracted for over $4 billion in small business volume, and over 40 percent of our private sector overhauls last year were performed by small businesses.

Finally, this Administration is very much geared to manufacturing technology and productivity investments. As a way of improving our industrial base and modernizing our shipyards. We have aggressively oriented our manufacturing technology programs toward shipbuilding both in our in-house facilities and in the private sector.

In summary, Mr. Chairman, I would like to state that I think our program is well under way. We have no significant contract issues outstanding with any of our Navy shipbuilders today in new construction.

Before entertaining any questions that you may have, I would like to address the last point which you raised and a subject which we had the opportunity to discuss briefly yesterday in your office. About 1 year ago, Navy representatives and senior representatives of Electric Boat appeared before this distinguished subcommittee and gave testimony on a number of issues as they related to submarine construction. A number of production and contract issues were identified which impacted delivery of Trident and SSN-688 submarines.

I am very pleased to report that these problems have been sufficiently resolved in the opinion of the Navy to permit assigning additional contracts to Electric Boat and, in fact, a contract was signed on January 7, 1982, for the ninth Trident submarine with options for Tridents 10 and 11; and on February 11 a contract was signed for SSN-724, with options for three additional 688-class submarines.

All outstanding matters relating to claims on the 688- and Trident-class submarines have been resolved.

Thank you very much, sir.

WRITTEN STATEMENT OF HON. GEORGE A. SAWYER

NAVAL SHIPBUILDING

INTRODUCTION

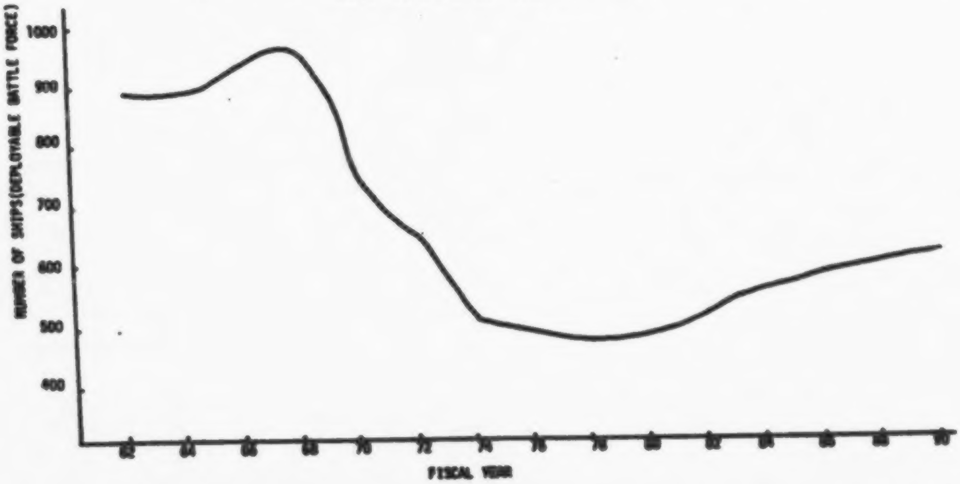
Mr. Chairman, I am pleased to have the opportunity to present my assessment of where we are one year after embarking on our program to restore the maritime balance and, in particular, our efforts to rebuild the fleet. Briefly, I would like to provide you some perspective on (1) U.S. naval forces and their historic decline in recent years, (2) the current national defense strategy as it pertains to the Navy, (3) our shipbuilding objectives—what they are in numbers and types of ships, and then concentrate on how we intend to accomplish these objectives in practical, affordable terms and in consonance with our current industrial base.

While the past year has not seen measurable change in the existing maritime balance, we believe we have achieved significant progress toward returning that balance to one favoring the United States.

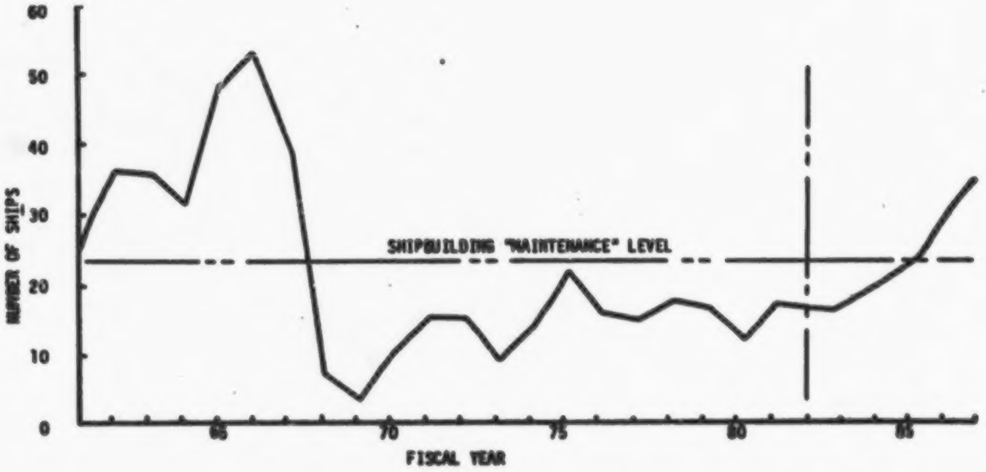
HISTORICAL PERSPECTIVE

First, let me set the stage for where we are going by examining where we have been. This figure shows the sharp decline we have experienced in U.S. naval forces over the last two decades.

SHIP FORCES OF THE U.S. NAVY



Although a pure numbers count is not the sole criterion for military capability, it is one valid indicator. Last year, the number of our maritime combatant forces reached its Nadir, and, for the first time since World War II, the Chief of Naval Operations indicated to this committee that our Nation had indeed lost "maritime superiority." This decline has been a combination of several factors that included shifts in defense priorities and our perspective of the threat during the sixties and early seventies.

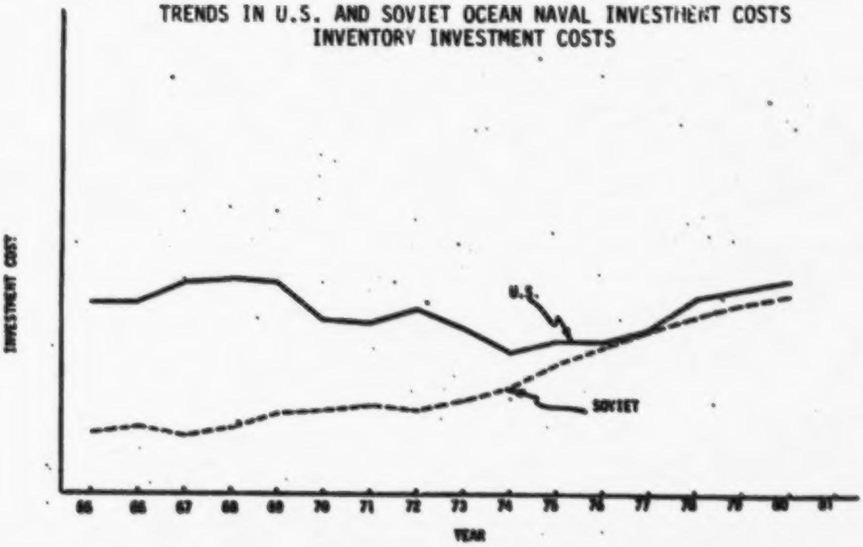


SHIPBUILDING HISTORY AND PROGRAM

In order to maintain the minimum required force structure, approximately 21-22 new construction ships annually would have been necessary. This figure displays our production history and program. Note the sharp decline during the Vietnam era—a point from which we have only begun to recover. As a result of failure to build adequate numbers of ships in the seventies, we must now build up until the minimum essential force is once more achieved and then continue to build at a sustaining level to maintain that force.

Extending beyond this simple "ship-counting" methodology, another comparative measure of relative emphasis is inventory investment cost which represents considerations of both quantity and quality. Over the last 15-year period, emphasis in the United States has been away from Navy investment. Defense cuts, coupled with a relentless Soviet defense/maritime buildup during this same period, dissipated our margin of safety and our ability to offer conventional conflict alternatives. This figure provides a comparison of inventory investment between the Soviets and ourselves. Although such a comparison cannot be made precisely because of the vast differences in our two economies, it does provide sufficiently clear evidence of an unfavorable trend between United States and Soviet economic support, economic commitment, and resource allocation to naval forces.

For example, from a perspective of national commitment, U.S. defense declined as a percentage of gross national product from an average of 8.9 percent in the fifties and sixties to 5.9 percent in the seventies, whereas Soviet defense spending over the same period rose from 10 percent of their GNP to about 15 percent. Reversing the former trend, this administration's program allocates 6.3 percent of the 1983 U.S. GNP and 7.2 percent of 1987 GNP to rebuilding our defenses.



TRENDS IN U.S. AND SOVIET OCEAN NAVAL INVESTMENT COSTS
INVENTORY INVESTMENT COSTS

Therefore, I believe that the evidence is irrefutable that the United States, which had enjoyed a 20-year advantage in clear maritime superiority prior to 1965, began to lose that advantage in the late sixties; and today the two nations are roughly equivalent in naval strength, a situation which portends ill for our national interests.

Concurrently, our changing economic patterns of industrial activity and trade have resulted in our increased overseas dependency for energy products and other critical resources. In recognition of America's dependency on free use of the seas for access to our allies, markets and resources, the Soviets have taken advantage of the attractive opportunity provided by reductions in ship forces. Today's Soviet Navy is a modern, increasingly capable blue-water force designed to strip the United States of our maritime lifeline and thus threatens our very existence. In short, we have allowed ourselves to become dangerously weak. In recognition of the current imbalance, this administration has begun to take the steps necessary to make major improvements in the capability of our naval forces as a matter of survival.

CHANGE IN STRATEGY

Clear maritime superiority must be acquired. We must be capable, as well as being perceived as capable, of keeping our access secure to areas vital to our national interests. Maritime superiority is an essential element of our future national strategy. For example, critics who argue that maritime expansion will only be achieved to the detriment of other conventional force programs fail to recognize that none of our projection forces will be viable or credible without the ability to gain entry to, and maintain control over, the regions to which they will be deployed. Of course, maritime superiority does not mean that we must seek to be dominant in all oceans at all times, nor act as the world's maritime policeman.

However, it does dictate a maritime force posture that is flexibly instructured, equipped and trained for mobility, simultaneity, and offensive combat—possessing strike capability at sea, forcible entry capability at the sea-shore interface, and the necessary strategic sealift to sustain combat, both at sea and on land. These Navy Marine Corps forces are an essential element in the national forward strategy. As Secretary Lehman has indicated, we must prevail, if challenged by the combined military threat of our adversaries, in those areas where our vital interests are involved. Should deterrence fail and conflict initiate between the navies of the United States and the Soviet Union, we believe it will quickly gravitate to one of global dimensions in terms of naval warfare. This conclusion, in support of national objectives, underlies our changes in strategy from a planning scenario of 1½ wars to global conflict, and a maritime force planning for 1½ to 3 oceans.

REBUILDING OUR NAVAL FORCES—PROGRAM GOALS

Reestablishing maritime superiority will provide the United States the capability to carry out the forward strategy necessary to offset any disadvantages of the allied nations on land. Unable to maintain superiority with current force levels, we must strive for major investment over the next several years in our shipbuilding and procurement accounts while improving current force readiness—both for near and long terms. Our fiscal year 1983–1987 program, therefore, contains a significant increase in the number of ships, aircraft, and weapons procured for the Navy. Capability achieved from such investment will not come soon—there is no "quick fix". It took us over 10 years to lose superiority and it may take us the next ten years to recover. As you gentleman will appreciate, it takes several years to produce one ship even after monies are appropriated. At the same time we are building for the future, we will not neglect the near-term readiness of our forces and their sustainability. Thus, our program strikes a reasonable balance between near-term needs and the long-term goals, all intended to restore a favorable trend in the naval balance.

PROGRAM OBJECTIVES

Our program meets four key objectives:

Increasing the offensive striking power of the fleet; improving day-to-day fleet readiness and sustainability; strengthening our anti-submarine and anti-air defenses; and modernizing our existing forces while making major increases in the number of fleet ships and aircraft.

FORCE EXPANSION—"600-SHIP OBJECTIVE"

A year ago, we outlined a force structure expansion of some 30 percent, the administration's objective to build to 15 battle groups, a force of about 100 attack submarines, and a MAF plus MAB amphibious lift—the "600 ship Navy." The program required additional aircraft carriers, battleships, attack submarines, strategic submarines, amphibious assault ships, strategic sealift ships, fleet support ships, mine warfare ships, and other support vessels in order to provide a balanced feet.

Because of the emergence of a global, blue-water Soviet maritime threat, the force shown in the accompanying table represents the minimum necessary Navy to avoid turning any of our vital maritime areas over to Soviet control.

U.S. NAVY MINIMUM FORCE

15 battlegroups; 4 battleships; adequate numbers of Aegis-capable and Aegis-interactive; battlegroup escorts; 100 nuclear attack submarines; 37 maritime patrol squadrons; 100–110 frigates; significant quantities of cruise missiles and smart weapons in the above platforms; MAF plus MAB amphibious lift; 30 minesweepers; support ships to match; and strategic sealift to support overall U.S. military capabilities.

The process of deriving this objective has been complex and comprehensive. Structuring a force to meet threats worldwide results in consideration of many possible conflict scenarios, all requiring different naval strategies. In view of the many variables, it is neither desirable nor possible to state with precision that a certain number of ships will be adequate for all purposes. We have determined that fifteen is the minimum number of battle groups necessary to carry out a strategy that will result in the proper maintenance of all our vital interests. The force in terms of combatants as well as support ships is derived directly from this minimum number of battle groups.

Our plan, aggregated by the new "deployable battle force" categorization is shown on the next table. The comparable force levels in 1970, when this administration took office (fiscal year 1981), and our end-of-decade goals (fiscal year 1990), are presented in the context of a new accounting method which focuses on our most readily deployable ships—those manned, trained, and materially ready for wartime deployment. The "ship count overview" gives you a simple picture of our current plans. But be assured we will continue to take into account other important factors in qualitative technological improvements which, taken in the aggregate, could have a greater potential impact on overall capability than number of ships alone.

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ACHIEVING THE 600-SHIP NAVY BY DEPLOYABLE BATTLE FORCE CATEGORY

	Fiscal year—		
	1970	1981	1990
Strategic forces:			
Ballistic missile submarines	41	34	43
Support ships	10	7	6
Total	51	41	49
Battle forces:			
Aircraft carriers	19	12	13
Surface combatants	223	187	218
Submarines	105	87	91
Diesel	59	5	0
Patrol combatants	15	1	6
Amphibious warfare ships	97	59	61
Mine warfare ships	64	3	18
Mobile logistic ships	68	48	67
Total	601	397	474
Support forces	89	44	53
Mobilization forces category a	9	9	37
Total deployable ships	750	491	613

When this administration took office, our deployable battle force numbered 479 ships—by 1983 we will have 535 ships. Our five-year shipbuilding plan (fiscal years 1983–87) should produce a fleet of over 600 ships by the early 1990's.

The table below outlines our five-year shipbuilding program.

FISCAL YEAR 1983–87 SHIPBUILDING PROGRAM

Type of ship	Fiscal years—						
	1982 [1]	1983	1984	1985	1986	1987	1983–87 5-year total
Trident (ballistic missile submarine)		2	1	1	1	1	6
SSN–688 (attack submarine)	2	2	3	4	4	4	17
CVN (aircraft carrier-nuclear)		2					2
CV (aircraft carrier) SLEP [2]		1		1		1	3
CG–47 (guided missile cruiser)	3	3	3	3	4	4	17
CG–42 (nuclear guided missile cruiser)						1	1
DDG–51 (guided missile destroyer)				1		3	4
DD(destroyer)					2	1	3
BB (battleship) reactivation	1	1	1	1			3
FFG–7 (guided missile frigate)	3	2	2	2	3	3	12
MCM (mine countermeasure ship)	1	4	4	5			13
MSH (mine countermeasure ship)			1		5	5	11
LSD–41 (landing ship dock)	1	1	1	2	2	2	8
LHD–1 (amphibious ship)			1			1	2
AOE (multi-purpose stores ship)				1	1	2	4
AE (ammunition ship)				1	2	1	4
ARS (salvage ship)	2	1	1				2
AD (destroyer tender)					1	1	2
T–AO (oiler)	1	1	3	4	4	6	18
T–AGS (FBM support ship) conversion				2			2
T–AK (cargo ship) conversion				1			1
T–ARC (cable ship)					1		1
T–AGM (range instrumentation ship) conversion					1		1
T–AGOS/AGOS (surtass)	4		1		2	3	6
T–AKRX (SL–7) conversion [3]	4	4					4

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FISCAL YEAR 1983–87 SHIPBUILDING PROGRAM—Continued

Type of ship	Fiscal years—						
	1982 [1]	1983	1984	1985	1986	1987	1983–87 5-year total
T–AFS (stores ship) conversion	2						
T–AH (conversion)		1	1				2
New construction ships	17	18	21	24	32	38	133
Conversions/SLEP's/reactivations	7	7	2	5	1	1	16

[1] Shown for information to reflect changed baseline from Carter program.
[2] SLEP—Service life extension program.
[3] Acquision of 8 T–AKRX's will be completed in fiscal year 1982.

I would like to highlight our program for battle forces.

THE FISCAL YEAR 1983–87 SHIPBUILDING PROGRAM

The five year shipbuilding program provides for construction of 133 new ships and the conversion, reactivation, or service life extension of 16 others. The principal battle force components of the program are:

Aegis ships.—The plan includes orders for 17 guided missile cruisers (CG–47 class) and one nuclear-powered guided missile cruiser (CGN–42). Both cruisers will be equipped with the Aegis combat system, which will enhance fleet capabilities in air defense firepower. By the early 1990's, there will be 25 Aegis-equipped ships in the fleet.

Destroyers.—In this plan, we have initiated the construction of a new, less costly class of surface combatants, the DDG–51. This new destroyer program is intended to replace the large numbers of guided missile cruisers and destroyers retiring in the 1990's. The DDG–51 will be battle-group capable and will be configured to operate in all phases of naval warfare. The first 4 DDG–51's are in the five year plan.

Attack submarines.—During current year 1981, seven nuclear attack submarines (SSN–688) were delivered to the Navy. This fine production record is an indicator that previous construction problems appear to be resolved and we expect that production will continue to improve in the future. The Congress has authorized a total of 39 SSN's and the current five year plan adds 17. These submarines are a primary vehicle for the prosecution of anti-submarine warfare and will include modifications for the installation of the vertical launching system (VLS). The VLS will improve the offensive capability of the SSN–688.

Carriers.—A centerpiece of our five year plan is the request in fiscal year 1983 for two nuclear-powered aircraft carriers of the *Nimitz* class. The ability of these carriers to project power ashore and to provide for fleet air defense is well known. The current procurement plan intends to take advantage of a multi-ship buy to reduce procurement costs and accelerate deliveries. This acceleration will permit the economic ordering of ship equipments from subcontractors and vendors, strengthen the industrial base, and deliver each of the ships 22 months earlier than previously anticipated.

Amphibious ships.—A major effort in the five year plan is the procurement of ships in three classes of amphibious shipping. These ships will help to provide the additional lift required as we increase capability toward our amphibious lift objective of moving, simultaneously, one marine amphibious force and one marine amphibious brigade. In addition, the ships will accommodate the increased requirements for lift occasioned by modernization of Marine Corps equipment. The plan programs procurement of eight LSD–41 class ships, 2 LHD–1 class, and the initiation of a new ship, the LPDX. The LSD–41 class is intended to replace the LSD–28 class retiring in the mid-1980's. Each of the LSD–41 class will be capable of embarking at least four air cushion landing craft (LCAC), a needed improvement in the ability to tranfer troops and equipment rapidly ship-to-shore. The LHD–1 is a general purpose amphibious ship patterned after the LHA design. It will displace about 40,000 tons; will be capable of operating LCAC's, V/STOL aircraft, and helicopters; and can serve in a dual capacity as a light support carrier. The LPDX will be a replacement for LPD's retiring in the 1990's.

Landing craft air cushion.—The fiscal year 1983 budget includes a request for 3 LCAC's. Funding this request will permit advancement of procurement plans by one year. The five year program includes 12 more LCAC's than were included in last year's plans. The LCAC, which will replace existing landing craft, improves our ship-to-shore transfer capability by moving troops and equipment, including tanks, at speeds in excess of 40 knots.

Battleships.—The five year plan continues reactivation of *Iowa* plus the two remaining ships of her class. These ships will enhance the effectiveness of the surface action groups with their capabilities in Harpoon, Tomahawk, and 16-inch guns. At the end of the program, four battleships will be operating with the deployable forces.

Guided missile frigates.—The fiscal year 1983 budget continues production of the FFG–7 class guided missile frigates. These frigates meet our requirements for a relatively inexpensive ship to escort naval forces other than carrier battle groups. During the five year program, earlier ships of this class configured with the Lamps MK–1 helicopter system will be transferred to the naval reserve.

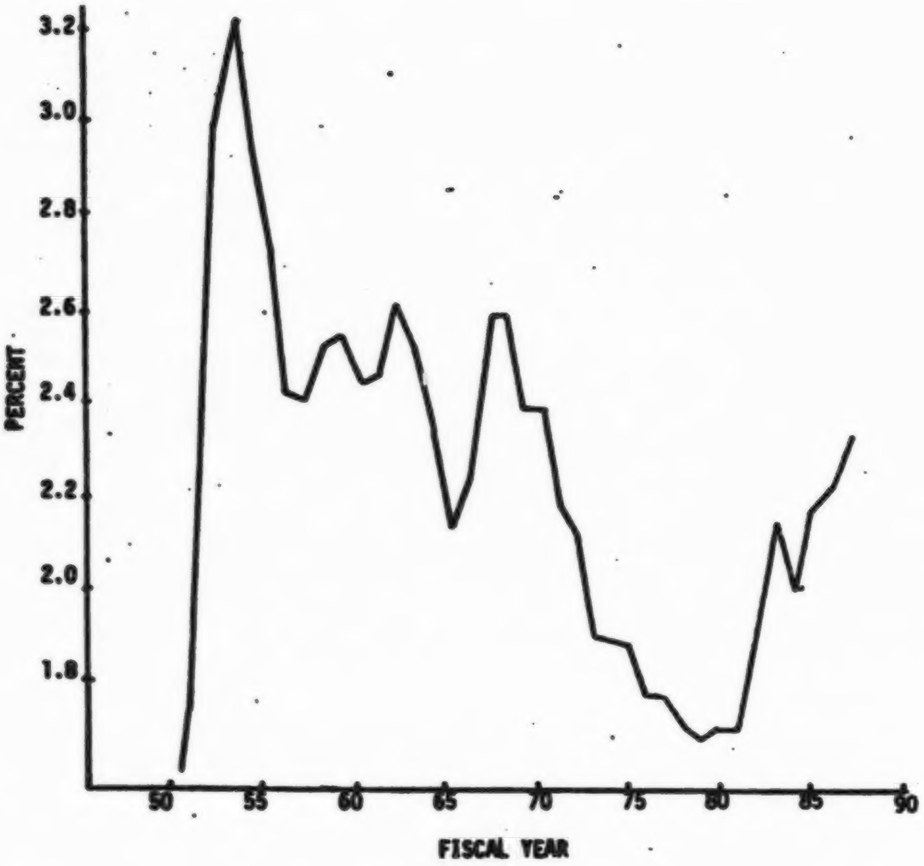
Fleet Oilers.—In order to support the forward deployment of our naval forces, it has been determined that additional fleet oilers are required. The TAO program anticipates the construction of 19 fleet oilers, 18 of these in the next five years. These ships will be operated by the Military Sealift Command and will improve the capabilities of the oiler force without impacting active duty manpower. In addition, the TAO will serve as a model for our efforts in multi-year procurements.

Mine countermeasure ships.—For a number of years, the U.S. Navy has not been able to counter the growing menace of the Soviet deep-water mining threat. The current mine countermeasures program plans for procurement of 24 MCM ships, incorporating the latest technology in sweeping, hunting, and neutralizing mines. Our deep-water capability is provided by 14 MCM ships, 13 of which are programmed for the next five years. A new class of smaller minehunters, MSH–1, will augment the MCM force in harbor clearance operations and are included in the five year plan for the first time. The lead MSH is projected for fiscal year 1984 with 10 other ships to follow in the 1986–1987 time-frame.

Combined with the emphasis on battle forces' construction and conversion are several special efforts. The ships for the Rapid Deployment Force, and in general, ships to be manned by the Military Sealift Command, offer us the unique opportunity to buy or charter ships that are already built and adapt them for use responsive to our strategic sealift requirements. The acquisition and conversion of eight SL–7 container ships is an example of the opportunities we are exploiting.

This method of acquiring or chartering existing vessels and adapting to military needs provides a significant cost advantage to the taxpayer as well as much earlier availability when compared to a new construction program.

Another critical element of our proposed force expansion is the aviation that supports it. Both Admiral Hayward and Vice Admiral Trost have well presented the continuing importance of air power and, in particular, regional control of the air as a vital adjunct to maritime superiority. Our five-year APN plan is 75 percent larger than the one submitted a year ago. It provides procurement for 1900 aircraft that not only accommodate modernization and replacement, but for the first time in many years—growth. We expect to "stand up" the thirteenth carrier wing in fiscal year 1984 followed by a fourteenth in fiscal year 1987.



NAVY TOA AS A % OF GNP

AFFORDABILITY

It is my firm conviction that our great nation can afford the increases requested in the fiscal year 1983 budget. This administration's promise to "re-arm" America does no more than return this nation to a level of defense expenditure approximating those of the 1960's. As shown in figure 6, the requested levels of spending to rebuild our naval forces, in particular, measured in terms of the navy budget as a percent of the GNP, will not reach the levels that our Nation demonstrated as affordable in the 1950's and 1960's—an era when the international situation was less tense, our relative position in the world was far more secure, and the great armada of ships that we has amassed in World War II was still relatively young.

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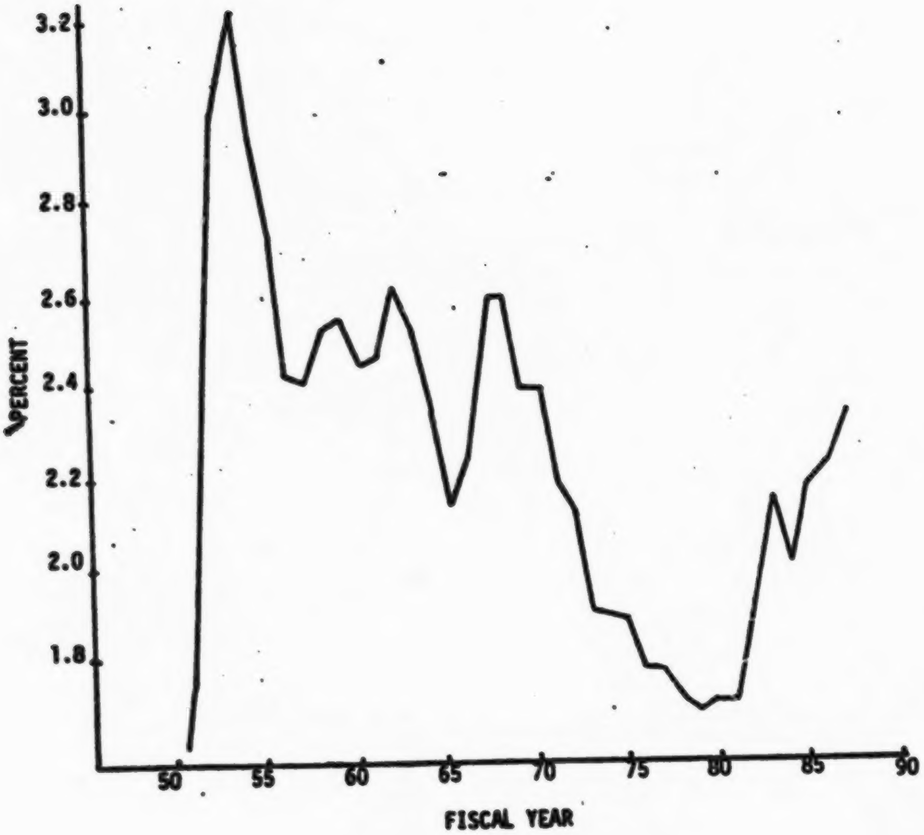

NAVY TOA AS A % OF GNP

These trends, as well as the past neglect of investment requirements, have helped size our request. As mentioned previously, much of the navy increase is in investment—shipbuilding and conversion.

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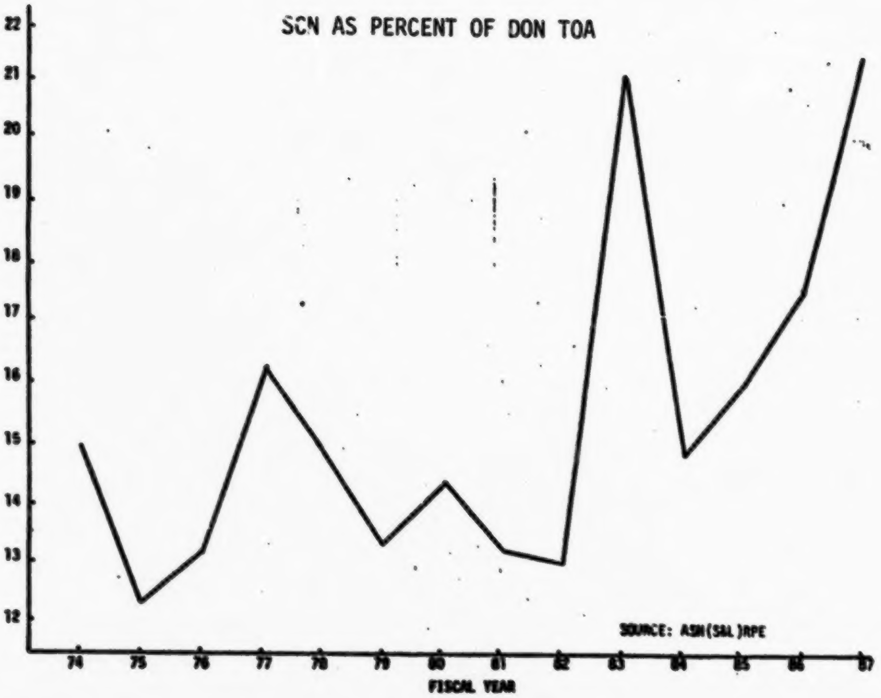
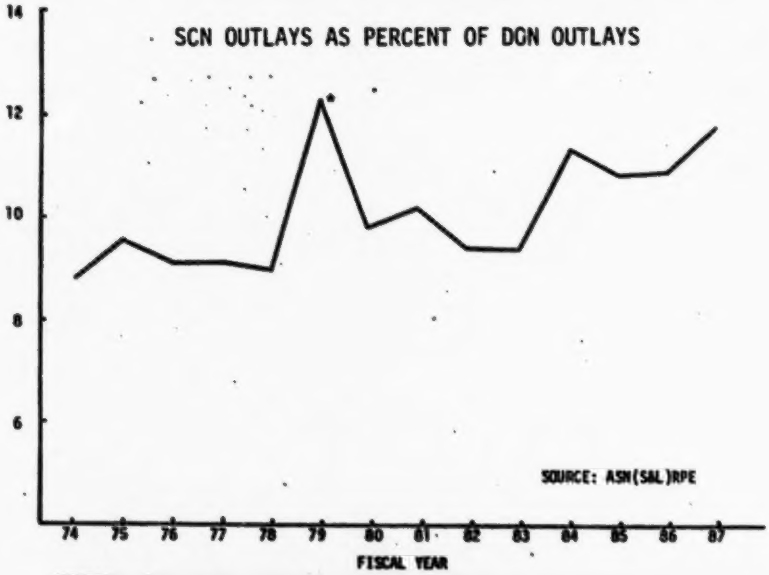


SCN AS PERCENT OF DON TOA

SOURCE: ASN(S&L)RPE

This figure depicts the percent of the Navy TOA budget directed toward shipbuilding and conversion. This is a somewhat misleading criterion for resource allocation in any given year. Currently, the "budget" must accommodate all future year commitments, whereas our outlays will not produce such a dramatic surge. The next figure present our shipbuilding program as a function of outlays.



SCN OUTLAYS AS PERCENT OF DON OUTLAYS

SOURCE: ASN(S&L)RPE

*CONTAINS LARGE AMOUNTS ASSOCIATED WITH IRANIAN TRUST FUND PAYMENTS AND CLAIMS SETTLEMENTS

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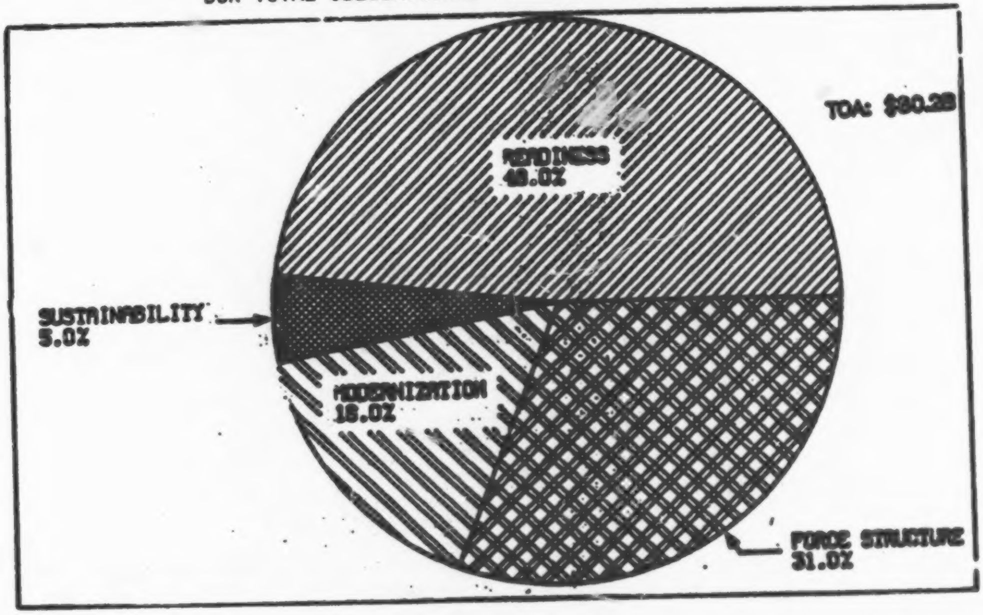
Some concern has been expressed that we may be mortgaging our future at the expense of the present—particularly in readiness and sustainability. This figure displays allocation of Navy resources in terms of the DOD "pillars": (1) Force structure, (2) force modernization, (3) force sustainability, and (4) force readiness.

FY 83 MILITARY CAPABILITY COSTS
DON TOTAL OBLIGATIONAL AUTHORITY (TOA)



We will allocate greater than 50 percent of our fiscal year 1983 budget to readiness and sustainability for our existing forces as we rebuild the fleet. During the next few months, as we review our five-year program, continued attention will be focused to insure a balanced allocation between investment and the funding for ownership.

In summary, we believe our approach to expansion is both affordable and achievable. We are programming to meet requirements; the industrial capability exists; and we intend to manage the resources to gain the greatest return on the taxpayers' investment.

BUSINESS MANAGEMENT

Intensive management on our part will be required in order to properly execute this plan. We are concerned about cost growth and are initiating aggressive programs to insure that the taxpayers' dollar is spent wisely. As an example, we have a head start on improving managerial efficiency. President Reagan's amended budget for fiscal year 1982 placed special emphasis on economies and efficiencies in DOD, emphasizing savings to offset the overall increased defense budget. The fiscal year 1983 budget maintains that spirit with specific programs identified. The resultant economies, efficiencies, and dollar savings for the Department of the Navy are estimated to be greater than $9B over the fiscal year 1981–87 period. The figure below highlights certain of these initiatives relating to acquisition.

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EFFICIENCIES—ECONOMIES PRODUCTION RATES AND MULTIYEAR PROCUREMENT INITIATIVES

Program	Fiscal year 1983 TOA increase	5-year savings[1]
Economic Production Rates		
Aircraft:		
A-6E	109.6	58.4
EA-6B	169.6	36.8
F-14	562.5	70.9
CH-53E	81.8	20.9
SH-60B	55.7	217.5
Common ECM equipment	61.7	18.5
Other	2.8	5.3
Total	1,043.7	428.3
Multiyear Procurement		
Aircraft:		
C-2	32.4	58.4
EA-6B	9.1	21.1
A-6E	5.0	20.3
CH-53E	29.9	35.0
Weapons:		
SM-1 missiles	48.1	62.7
NATO Seasparrow missiles	9.0	37.2
Mule laser designators	10.5	5.5
MK-46 torpedoes	34.5	40.4
Ships: T-AO fleet oilers	109.8	66.5
Total	288.3	347.1

[1] Amount represents savings above and beyond recovery of the fiscal year 1983 investment amount.

The CVN multi-ship acquisition is another case of this important cost-saving strategy. Based upon a fully-funded two-ship procurement, we will realize the most economic, efficient, rapid means for obtaining two new CVN assets. Approximately $750M in savings will accrue from:

Reduced escalation from earlier delivery; economic order quantity procurement; reduction of duplication in start-up, set-up, and other non-recurring costs; and improved production utilization, manpower levelling, and labor productivity.

As a former businessman who has spent 20 years in engineering and construction activity, I can appreciate the underlying logic and potential pay off of the acquisition initiatives proclaimed by this administration. Two of these initiatives can apply as well in shipbuilding as in any other acquisition area—namely, multi-year procurement and competition. Nevertheless, to be truly effective, both of these "initiatives" require the essential ingredient of program stability. Many of our specific ship acquisition strategies are now rooted in the expectation that our five year shipbuilding program will remain reasonably stable. This committee in particular is well familiar with the practices of the past, which can be summarized by the phrase, "budget for the next year and wish for the outyear:" Yet, we recognize intuitively that a succession of one-year plans cannot execute efficiently major programs whose time constraints, from inception to delivery, range at best from 4 to 6 years. Multi-year procurement can and will work. However, together we must have conviction and agreement on what we want to buy over a period of time measured in years, along with the courage to commit to the best procurement plan possible. Similarly, the added up-front costs, incurred by introducing competition in a major acquisition program, can be paid back in out-year savings only if we are reasonably certain of both the quantity and rate of production in those outyears.

As a consequence our CVN multi-year procurement and our CG-47 second source initiatives are both rooted in a common objective: namely, to best mobilize and motivate our industrial base. We want to build these two highly complex and essential classes of ships as efficiently as possible as reflected in our five-year force building plan.

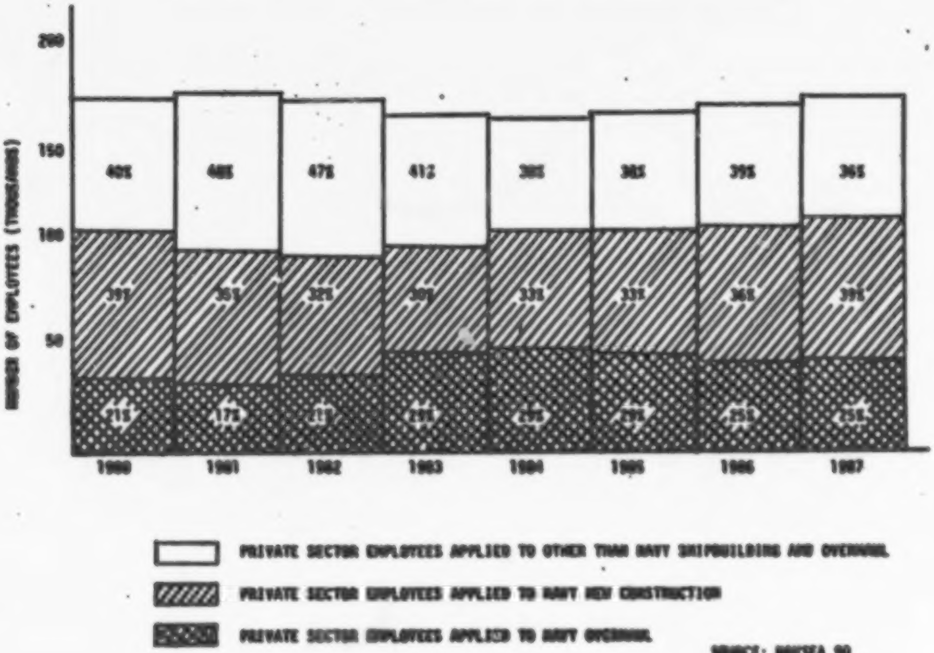
Our current ship acquisition strategies and business contract policies are realistic. They have been tailored explicitly to:

The quantity and rate desired; the engineering complexity and type of service intended; the construction lead time and difficulty involved; the increasing technical sophistication and improving construction capabilities of our shipbuilders; the current and future production capacity of our industrial base; the realistic extent of competition which can be achieved; and our own in-house engineering and management capabilities.

Thus, we have moved away from simplistic, inflexible procedures and toward more flexible, equitable contract policies. These policies are intended to share the risk between our contractors and ourselves as fairly as possible, based on a thorough and objective evaluation of the engineering/construction realities involved.

Much has been said (and, in my opinion, much of it erroneous) about the ability of our national industrial base to respond to the challenge implicit in building a 600 ship Navy. Although there have been and will continue to be specific pinch points or problem areas in our program—primarily relating to highly specialized vendor supplied items and critical source materials—our primary shipbuilding base is more than adequate to address our needs.

PRIVATE SECTOR SHIPBUILDING AND OVERHAUL PERSONNEL



SOURCE: NAVSEA 90
ASN(S&L)PPE

This figure shows that planned naval new construction and overhauls will account for between 60 percent to two-thirds of the total private sector capacity over the next five years. Admittedly, that is a large contribution, but it is entirely feasible. Indeed, if the commercial shipbuilding market does not make a dramatic recovery soon, Navy work alone will not support the current shipbuilding and ship repair capacity available in the United States. This would be most unfortunate for two reasons—first, we will lose desirable mobilization or "sure" capacity; and secondly, shipbuilding is a very labor intensive industry with a highly leveraged, multiplier effect on productive economic activity.

The multiplier effect can be shown by the below figure.

For each dollar that goes into the shipbuilding industry, an additional dollar is generated throughout the private sectors as shown in this figure.

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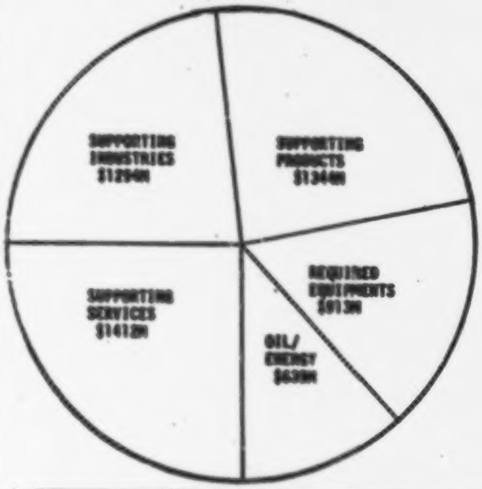
1983 ECONOMIC IMPACT OF SHIPBUILDING INDUSTRY

(FY-80 $)

IN FY 1983, THE SCN AND O&M,N (SHIPBUILDING) INVESTMENT IS PROJECTED AT $5,491M. WITH INDUSTRIAL MULTIPLIERS APPLIED, THIS INVESTMENT GENERATES $5,602M, DISTRIBUTED THROUGHOUT PRIVATE SECTORS AS SHOWN BELOW:



SUPPORTING INDUSTRIES:
MINING, STEEL MILLS, FOUNDRIES,...

SUPPORTING PRODUCTS:
FABRICATED METALS/ALLOYS, PIPES & VALVES, SEMI-CONDUCTORS, ...

REQUIRED EQUIPMENTS:
ENGINES, MOTORS, FANS, PUMPS,...

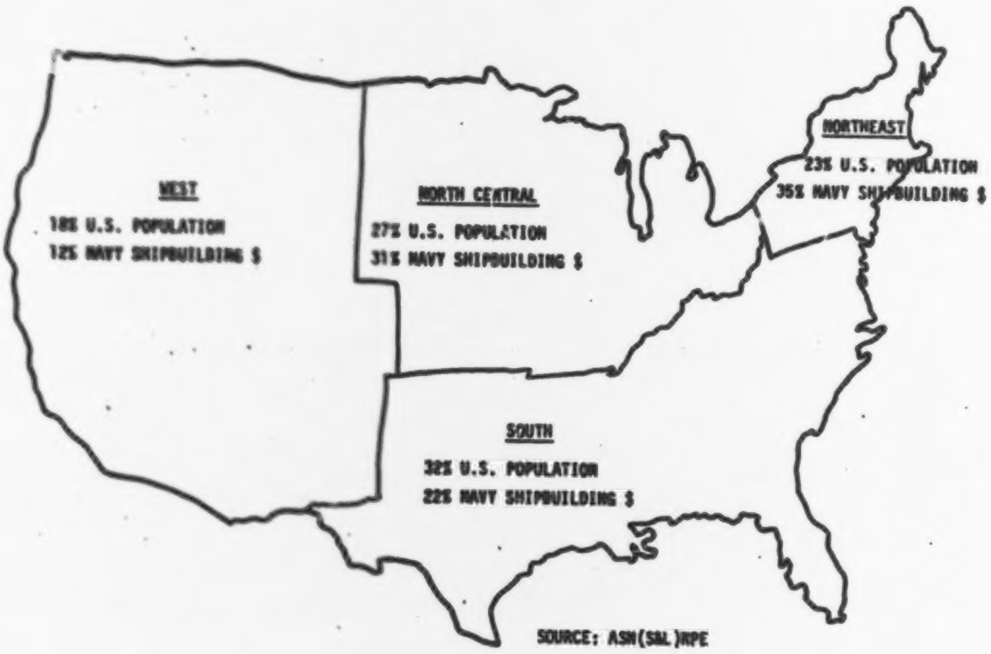
OIL/ENERGY:
PETROLEUM, NATURAL GAS, ELECTRICITY,...

SUPPORTING SERVICES:
FREIGHT, TRANSPORTATION, COMMUNICATION, LOCAL BUSINESSES,...

SOURCE: DEFENSE ECONOMIC IMPACT MODELING SYSTEM
ASN(S&L)RPE

Further, this inherent multiplier effect of our shipbuilding becomes rather well distributed geographically. Using expected regional distribution of procurements relating to new aircraft carrier construction as an example, we can see that the taxpayers' ship construction dollars receive and fairly even distribution as a function of population, with enhanced shares going to the Northeast and North Central regions.

REGIONAL DISTRIBUTION OF U.S. NAVY SHIPBUILDING OUTLAYS (NEW CARRIERS) AND U.S. POPULATION


WEST
18% U.S. POPULATION
12% NAVY SHIPBUILDING $
NORTH CENTRAL
27% U.S. POPULATION
31% NAVY SHIPBUILDING $
NORTHEAST
23% U.S. POPULATION
35% NAVY SHIPBUILDING $
SOUTH
32% U.S. POPULATION
22% NAVY SHIPBUILDING $

SOURCE: ASN(S&L)RPE

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The table below summarizes the major U.S. shipyards involved in U.S. Navy and deep draft ship construction.

MAJOR U.S. SHIPBUILDING YARDS
DECEMBER 1981

	Total Plant Employees	Total Production Workers	Building Category		
			I	II	III
Total-Active Shipbuilding Base	116,400	90,700			
Atlantic Coast	66,800	50,800			
Bath Iron Works	6,600	5,900	x		
General Dynamics, Quincy	3,300	2,200	x		
General Dynamics, Groton	23,000	19,700	x		
Bethlehem Steel, Sparrows Pt.	2,300	1,600		x	
Maryland Shipbldg & Drydock	1,400	900		x	
Newport News Shipbldg & Drydock	23,500	15,400	x		
Norfolk Shipbldg & Drydock	4,400	3,400			x
Pennsylvania Shipbuilding Co.	2,300	1,700		x	
Gulf Coast	27,000	21,100			
Tampa Ship Repair & Drydock	500	500			x
Alabama Drydock & Shipbldg	1,400	1,000			x
Litton/Ingalls, Pascagoula	12,400	10,400	x		
Avondale Shipyards	6,300	4,100	x		
Halter Marine Services	2,700	2,200		x	
Equitable Shipyards	600	500			x
Levingston Shipbldg, Orange	2,000	1,600			x
Todd Shipyards, Houston	500	400			x
Todd Shipyards, Galveston	600	400			x
Pacific Coast	19,500	16,200			
National Steel & Shipbldg	6,300	5,100		x	
Todd Shipyards, San Pedro	3,900	3,500	x		
Bethlehem Steel, San Francisco	600	400			x
Tacoma Boatbuilding Company	2,600	2,100		x	
Todd Shipyards, Seattle	4,300	3,600	x		
Lockheed Shipbuilding, Seattle	1,800	1,500	x		
Great Lakes	3,100	2,600			
American Ship Building, Lorain	200	100			x
Peterson Builders, Inc.	800	700			x
Bay Shipbuilding, Sturgeon	1,300	1,200			x
Marinette Marine Corp.	800	600		x	

CATEGORY:
I - Combatant Capable (plus Amphibious/Auxiliary and Merchant)
II - Amphibious/Auxiliary - Capable (Plus Merchant)
III - Merchant - Capable (Only)

Source: MARAD/IDA

PRIVATE SHIPYARD INVESTMENT

The entire burden and risk of the administration's five-year shipbuilding program is not resting solely on the public sector. Private venture capital is responding to the intent and the resolve of this administration to provide for the long overdue rebuilding of the fleet. Private investment in the Nation's shipyards is intended to improve productivity and enhance capacity to ensure that the shipbuilding industrial base can support the five-year program on time and without cost.

The Navy is working with the private shipbuilding firms to identify projects that will enhance their productivity. The following are examples of privately funded capital investment projects:

A major waterfront upgrading plan initiated to include a synchrolift drydock at Todd Pacific Shipyards, San Pedro, Calif.

Upgrading/modernization of existing drydock at Newport News Shipbuilding & Drydock Co., Newport News, Va.

An automated pipe shop at Avondale Shipyards, New Orleans, La.

A new facility utilizing a 81,000-ton floating drydock at Bath Iron Works in Portland, Maine.

A 1,000-foot long, deep draft pier; 150-ton gantry crane; and a 40,000 ton drydock at Todd Pacific Shipyards, Seattle, Wash.

Rebuilding of slipways and craneways at Lockheed Shipbuilding, Seattle, Wash.

Technology upgrades at Peterson Shipbuilders, Sturgeon Bay, Wis.

New lathe and boring equipment at Northwest Marine, Portland, Oreg.

SMALL BUSINESS CONSIDERATIONS

U.S. shipbuilding is a highly concentrated industry. Less than 5 percent of the total private shipbuilding/repair companies in the United States employ over 1,000 production workers. Yet, this 5 percent of the industry employes over two-thirds of the total private shipyard work force and accounts for over two-thirds of the total industry business. Nevertheless, for over 20 years the Navy has had an active small business program, and we have aggressively pursued this program in response to the intent of the Congress and the administration.

Last year (fiscal year 1981), for example, the Navy exceeded its small business and small disadvantaged business goals by a significant margin; over $4.1 billion in goods and services were procured through small business enterprises. The Naval Sea Systems Command, in particular, achieved 110 percent of its small business procurement goals, and in the area of small business set aside ship procurement, the Command exceeded its goal by over by over 50 percent. That is not to say that everything in the small business area is proceeding without difficulty, but we are getting the job done, obtaining fair value for the taxpayers' dollar, and meeting the objectives set forth.

CONCLUSION

I firmly believe that we have set forth a proper and balanced naval ship construction and general procurement program responsive to our national strategy. Moreover, this program—although ambitious—is technically and industrially feasible. When regarded in the context of the current threat and the precedent of the Nation's historic, post WW II resource allocation, I firmly believe the program is also "affordable."

In terms of specific acquisition and contract procedures, we have embarked on the right course as evidenced by the generally good to excellent current performance of our shipyards. I wish to assure this committee that we in the Navy intend to manage just as fairly, knowledgeably, and responsibly as we can the precious resources allocated to rebuilding our fleet.

Mr. Chairman, this concludes my remarks. I am prepared to address any questions that the committee may have.

Mr. **Bennett**. Thank you.

As you indicated, there was testimony last year that there were not sufficient inspection officers—that is one thing I remember—of the Navy to respond promptly to company requests. What is now the availability of duty officers around the clock to meet such emergency requests at Groton?

Mr. **Sawyer**. Let me respond briefly, and then Admiral Fowler can supplement, Mr. Chairman.

We have a duty officer available around the clock at the shipyard, or on call. In addition, our Government inspectors are on call on a two shift basis with advance notice. In other words, if the shipyard says, with advance notice, we will be working with the third shift, there will be inspection available.

Mr. **Bennett**. But there is somebody there available around the clock as the duty officer to respond to emergency requests now at all times, isn't there?

Mr. **Sawyer**. Or on the phone, sir. There is a duty officer in terms of a naval officer available on a phone watch.

Mr. **Bennett**. I am not sure I get the exception. I guess you are telling me no? What is the something else?

Mr. **Sawyer**. Someone from the supervisor of shipbuilding, an officer, one of our supervisor of shipbuilding officers would be available either at the shipyard or on call on the phone, so he would come right in.

Mr. **Bennett**. That is what I wanted to know. The answer is yes, then.

Mr. **Sawyer**. Yes.

Mr. **Bennett**. Do you want to add in any way to that, Admiral?

Admiral **Fowler**. Mr. Chairman, I believe I previously testified that we had increased our staff up there in May 1980. I had ordered that 50 additional people be placed in the supervisor's office at Groton. At that time people were available for inspections any hour of the day or night. We have essentially doubled our quality inspection force. We have increased our waterfront engineering force. We have people on the second shift routinely—I think the number is three—for quality inspections. I have heard of no problems in the last year in this regard.

Mr. **Bennett**. Then you agree with the statement that there is somebody on call by telephone, a duty officer available, whether he is at the base or not, but there is somebody who can be reached for inspection emergencies if necessary around the clock. Is that correct, sir?

Admiral **Fowler**. Yes, sir.

Mr. **Bennett**. Thank you very much.

One thing came up recently with regard to the Navy and me, and you may not be able to address this now. There was a question down at Kings Bay of a small business set-aside. The letter I got back from the Navy said, yes, this is not an ordinary small business set-aside, but there were 12 small businesses that competed for this project, and therefore no large business would be allowed. Maybe I should just do this by correspondence. I was sort of surprised that large business could be excluded when it wasn't in a small business field, when it wasn't under $5 million, in other words. Do you know anything about that? You don't have to know anything about it.

Mr. **Sawyer**. No, I don't know anything about it.

Admiral **Fowler**. I am not aware of the instance, Mr. Chairman, but the rules are, if there is competition in the small business, then we set it aside and large business is thereby excluded.

Mr. **Bennett**. That is what I wanted to find out, and you gave me the answer. I was kind of wondering. It could be that big business couldn't do any business under those circumstances. Isn't that so?

Admiral **Fowler**. That is one of the complaints that I often receive.

Mr. **Bennett**. Maybe somebody ought to look at it, because the people down there in the bidding process, the large business, were very well established companies that have been there for 100 years or thereabouts.

Admiral **Fowler**. Mr. Chairman, if I may expand upon your question, one of the things that concerns me is, as Secretary Sawyer said, we have 25 or 26 major yards in the country. I have about almost 200 master ship repair contracts. So many of those people are small business, and many of the policies that we are pursuing are causing a disadvantage to the large companies that have large overheads because they have large facilities, cranes, piers, dry docks, and that sort of thing, and we are in fact taking a hard look at that to see if there is some inequity or at least a better policy that we could put forward.

Mr. **Bennett**. It is probably based on a statute anyway. It probably isn't your fault if there is something wrong with it. I am not sure there is something wrong with it. I was just surprised to see a very large contract going to small business and excluding large business, as it was a large contract.

Admiral **Fowler**. A few minutes ago, sir, I said that was the rule. I think it is a statute, but I didn't say so because I am not that sure.

Mr. **Bennett**. Well, I will look into it to see if some correction should be made. If you have any further input into our record, we would appreciate it.

If I have a little more time, I have one more question, and that is with regard to the second source procurement, the CG–47. I understand it is going to cost $80 million to get a second source. Is there any study that you have come up with that shows we are going to recoup that $80 million in the process of working out all those ships?

Mr. **Sawyer**. Sir, there are all kinds of studies being done on that matter.

Mr. **Bennett**. Well, do any say we are going to recoup the $80 million? I don't think there is.

Mr. **Sawyer**. I don't think there is a study that shows that, sir. Very frankly, I think the cost of a second yard startup will be more than $80 million.

Mr. **Bennett**. More than $80 million?

Mr. **Sawyer**. Yes, sir.

Mr. **Bennett**. Well, I think we ought to frankly face that. There may be some reason why you ought to have a second source, and it is healthy to have competition, but I don't think we ought to mislead people if it is not really going to save dollars. I think we ought to frankly just say, in order to keep the industry alive, we have to do *X*, *Y*, and *Z*.

Mr. **Sawyer**. Mr. Chairman, I would like to talk a bit on that subject.

Mr. **Bennett**. Oh, you can talk as long as you want. That timing bell was for me. I can't ask any more questions, but you can talk.

Mr. **Sawyer**. Well, first, let me say, of course, the additional startup costs will be involved here in getting a second source qualified and up to speed for this very complex weapons system. The number $80 million which appears in the budget is to cover known nonrepetitive costs. There will be additional cost, we think, that will be shipbuilder related.

We are in the process now of competing out to the shipbuilders, and based on their proposals we will have a better handle on the additional. I think the current Navy estimate is, in terms of the initial cost, $218 million. Now, of course, these ships are in the vicinity of $1 billion each. I think putting the $200 million in perspective to 25 ships of $1 billion, and that is in 1982, in addition, we have the escalation plus any upgrades that will be done with them.

Mr. **Bennett**. Well, you take a billion here and a billion there and it amounts to a lot of money, doesn't it?

Mr. **Sawyer**. Yes, sir, and it is a lot of ship. As you know, we are phasing down in terms of our FFG program. It is phasing down now to replacements for ships that will be transferred into the Reserve Fleet, to upgrade our Reserve Forces which we feel also is a very strong ancillary objective in force readiness.

As that program winds down, say from the five or six rate, which it was not too many years ago, the industrial base becomes free in at least two to three other shipyards. The CG-47 represents a very important weapons system to us, a defense system that is going to go with those large carriers and provide the air to air defense required for a dense threat environment. It is part of the strike capability that Secretary Lehman and the Chief of Naval Operations talked about with regard to our carrier battle groups.

In addition, as Congressman Spence mentioned, plans for the new destroyer midsize combatant, of which we will build upward of 50 or more, will use the same basic technology. There will be upgrades and improvements, of course, but basically we are talking about a much more sophisticated, complex radar command and decision system than we currently employ in our FFG's. We feel it is very important that we qualify additional shipyards and an industrial base to be able to address both the needs of the CG-47 program in terms of a rate of three to four a year, plus the DDG-51 as it phases into construction in the mid-1980's.

Now, I think from the standpoint of the physical factors, a very good case is made. The problem of a long sole source arrangement with one shipyard over a 20- to 25-ship buy, personally, I think if it can be avoided, many times it is not practical to avoid it, but if it can be avoided, it is healthy and helpful to most of the economy in terms of just geographic coverage of economic activity. But also, in case of strikes, storms, fire, or similar catastrophe that could come up, when we have just one supplier, we are totally shut down.

The next argument is really one of faith, that is, for competition. Does competition in the outyears help achieve better prices, or doesn't it? That is one that I think every individual might have a different opinion on. Frankly, sir, I don't know of any study that could be done that is going to prove that point one way or another.

Mr. **Bennett**. Thank you.

Mr. Spence.

Mr. **Spence**. Thank you, Mr. Chairman.

Mr. Secretary, we are talking about business going to different parts of the country, to different yards and so forth. I notice on page 22 of your statement you say "Regional Distribution of U.S. Navy Shipbuilding Outlays, New Carriers, and U.S. Population." What does that entail in new carrier construction? I would have thought that most of it would have come from Newport News.

Mr. **Sawyer**. It doesn't, sir. I think this is perhaps quite graphic. A carrier actually has better characteristics with regard to how much sticks on the shipbuilder. You take an FFG, for example, and let's say of one program dollar that is spent on an FFG, I believe we figured it to be something about 20 cents to 22 cents that sticks on the shipbuilder. The rest goes to the engine manufacturers, the combat system supplier, et cetera.

For a carrier, I think the GFE alone in an aircraft carrier is about one-third of the total cost of the project. The contractor furnished equipment, and this would cover the materials that the shipyard has to buy, covers about another third, and the shipyard, what would stick, let's say, in this case in Newport News, Va., is about one-third, so you do get this regional distribution.

Mr. SPENCE. I thought so. It proves what I said before one time when we were talking about Sun Belt versus the Northeast and the Midwest and all that, and how much of the military dollar goes to the South. I was trying to tell them that most of that, at least a large portion of it, goes back to those other areas where component parts are manufactured.

Mr. SAWYER. Yes, sir.

Mr. SPENCE. This new DDG-51 that we were talking about, how large is that supposed to be relative to the CG-47?

Mr. SAWYER. Well, the ship is quite a bit smaller. I don't know if I have the dimensions of it. She is about an 8,500-ton ship, which makes her a little over the displacement of a 963, but she is a very dense ship. As I recall the current design, she is almost 5 to 7 feet more in beam; shorter; and of course, all steel.

Mr. SPENCE. I was wondering if it is big enough to carry or support the Aegis system, because these are supposed to replace guided-missile cruisers, as you say in your testimony. I didn't know whether they could also carry the Aegis system or not.

Mr. SAWYER. Well, sir, let me say incidentally that I have seen the workup that has been done to date and I endorse it very highly. I think they have come up with a very fine design. You have heard that she is, of course, an all-steel ship. She has a relatively small deckhouse. She doesn't sit up there with a big, square silhouette. Of course, that is one reason for her survivability. A lot of the combat spaces are now down below decks, but the Aegis itself, the fire control radar and system is, of course, not necessarily the major driver on a ship, although this ship will use a lightweight Aegis derivative of what is in the cruiser.

The ship was intended to have about 75 percent of the combat capability of an Aegis cruiser. It will not, have an embarked flag or area group commander, and will not incorporate a helicopter hangar. She will have the ASW capability, but does not have to carry an embarked helicopter.

Mr. SPENCE. There is one other question I wanted to ask, too. Talking about the Aegis systems and the second source for the CG-47, what about a second source for the Aegis system? Have you thought about that?

Mr. SAWYER. Yes, sir. That is a good question. We would be going up by almost an order of magnitude in terms of complexity. It is much like saying, why don't we second source the LDS-41? I feel very strongly about that one, because I don't see it as a second source, since we are just building too few of them.

Right now, in the case of Aegis, it is just an emerging, highly complex technology. I think we would have to pay a fortune in additional costs, but most importantly, I think it would really hurt us in time. The ship is relatively easy to break down relative to a weapons system.

Mr. SPENCE. In my opening remarks earlier I was referring to what they call the SSES system, the [Ship Systems Engineering Standards] in the fiscal year 1982 budget, or at least in the appropriations bill. Congress provided $10 million for this system. Could you say how the money is being used, or what the plans are, Admiral Fowler?

Admiral FOWLER. Well, we are spending it wisely, as I promised the committee last year we would do, at least in my opinion, and we have a series of studies and design work, engineering work going on to produce a set of standards for which the preliminaries will be available during this year, which describe the characteristics that you need to standardize on, the parameters that you need to standardize on, so that you can apply this philosophy of interchangeability.

We have selected three sizes of ships, a small-size combatant, a midsized combatant, and a large-size combatant to use as notional ships to look at different weapons systems and what have you. There are a number of studies going on, and that is the way the money is being spent. We have a schedule of when these things will be produced, and we hope to dovetail those in appropriately with the DDG-51 designer.

Mr. SPENCE. My time is up. Somewhere along the line, in your responding to somebody else, if you have time, please tell us what you think about the modular system, since you do a lot of shipbuilding work.

Mr. DYSON [presiding]. Would you care to respond to that now?

Admiral FOWLER. I would be happy to. I think it is a great idea. It is a good concept, and we are pursuing it. I don't know of anybody who says it is a bad idea or a bad concept. It is being used in other countries, and it is widely accepted conceptually. The difficulty is in the application. That is what costs a lot of money, and is going to take a lot of time, and going to be hard to decide.

Let me give you an example. We are designing the DDG-51 with a derivative of the Aegis combat system, and we are putting the vertical launch missile launchers on there, which is the latest launcher that we have. They presently are being tested at sea at Norton Sound, and if they work out right, we are going to put it in one of the CG's here in the future.

These ships are 1985 starts. The first deliveries will be in the 1995 timeframe, or the 1990 timeframe. We are going to build quite a few of them over the 1990 to the year 2005 timeframe. This group of DDG's will come up for sort of a midlife upgrade and maybe around 2005 what we ought to be looking at for that is a follow-on to the Aegis combat suit, which means we are going to spend several billion dollars at some point in the future.

We ought to be looking at the next type of launcher, whether we are going to have missiles in that timeframe or some other kind of weapon. Those are the things with which you have to grapple to really use the forward-looking application of the SSES concept. So, while I buy the concept for interchangeability and for those things that I can see and know something about today, I can define the standards for interchangeability, but I have difficulty going too far into the future with where we are really headed and making any engineering judgment about whether we ought to put one more generator or bigger cables or leave a great big piece of space in a ship that I am trying to leave as small and inexpensive as possible.

Those are the things that we are really grappling with. That is hard drawing board, engineering level work. That is what costs $10 million this year to grapple with.

Mr. SPENCE. Thank you.

Thank you, Mr. Chairman.

Mr. DYSON. Mr. Secretary, I was going to offer a long statement on commercial shipbuilding and the fact that construction of commercial shipbuilding is at its lowest level in history, but I see on page 20 of your own statement, which I don't believe you read—did you?

Mr. SAWYER. No, sir.

Mr. DYSON. That you are very much aware of it, because your statement begins, "if the commercial shipbuilding market does not make a dramatic recovery soon, Navy work alone will not support the current shipbuilding and ship repair capacity available in the United States." You go on as to why this would be unfortunate. We got very parochial for a while. The people from Bethlehem Steel and the shipyards at Sparrows Point were in to see me yesterday, and I believe they were in to see you on this Friday.

Mr. SAWYER. Oh, several times.

Mr. DYSON. Yes, I am sure, several times. The Secretary of the Navy will be traveling with the Maryland delegation to Sparrows Point. As I understand it, it is claimed by the Navy that 26 private shipyards must be maintained in this country for purposes of national security. You referred to this as the mobilization industrial base. I think you are probably very familiar with the problems the Baltimore shipyards are experiencing. Also, I might add, they are not peculiar just to Sparrows Point and the others. They are commercially oriented. But now they feel the pressure more than ever to start to deal with the Navy and others in order to get some of this business.

My concern right now is this. What are we doing to insure a viable industrial mobilization base?

Mr. SAWYER. Within Navy?

Mr. DYSON. Yes.

Mr. SAWYER. This whole issue has ramifications, of course, which are outside of just the Department of the Navy. I would just like to say that some of the more novel approaches that we have taken with regard to our auxiliary vessels have been in part motivated by the problems that I see with regard to our commercial yards, those shipyards, let's say, that did not really address themselves in the past either at all or very much into the Navy market.

Mr. DYSON. Well, that was primarily because they were commercially oriented.

Mr. SAWYER. They were totally commercially oriented, and did very well at it. With the drying up of the commercial orders now, they are really faced with having to look to the Navy. In many cases, some of these programs, such as SL-7 conversions and the T-AKX and the C-5's, I believe, are literally going to be life or death programs to some of these shipbuilders. I do not see our principal combatant shipyards, for example, going after or trying to address this work.

We have tried to pattern programs in such a way that we could get these programs moving as fast as we can. Again, I feel very strongly on the point that the best way to do that is to commercialize the program to the extent that we can get as much of it out of house as opposed to a Navy prepared design specification and bid process. That is a two to three year process, and sometimes justifiably so. But in the case of some of these programs, we can use techniques which major commercial buyers use.

We are not looking for a warship. The ship's mission really is a commercial mission. Let's say in our own procurement we are attempting to tailor it responsibly to the problems that are perceived with regard to our commercial sector shipyards.

Mr. DYSON. Let me ask you another question. Are there any specific shipyards in the United States today which the Navy considers particularly vulnerable, but which at the same time you consider important enough to preserve?

Mr. SAWYER. Actually, sir, I don't know what official Navy study supports the 26 number base. We have 25; 26, of course, recently became essentially 25 in terms of corporation control, with Sun being sold to Levingston. My point is this. Looking at the 25 major shipbuilders with whom we have done business in the past, either in new construction or repair or both, that is not necessarily a number that I would say is a Navy number that we must preserve.

In fact, in terms of ship repair, I think the number should be higher. Again, you have firms that specialize in ship repair. There are some very small ones, and very good ones that incidentally would get Navy repair business whether or not we had set-asides. Then we have a few small new construction yards in the Great Lakes that address some of our mine sweepers, tugs, and things of that nature. In terms of our major shipyards, private yards, I think there was a study done last year for the Defense Department by IDA which indicated that to build the 600-ship Navy required approximately 17 to 18 shipyards.

That is a number which is certainly less than the 25 you postulated we might need to address our 600-ship requirement.

Mr. DYSON. Admiral?

Admiral FOWLER. No study that I know of ever said that we need 25 yards for mobilization purposes. There was a study in about 1978 or 1979 at the request of Congress that said for full mobilization we would have to go up to about 17 yards, as I recall. I do not think the Congress was pleased with that. I believe it was the Senate side. They asked for the second study. The IDA did that study, and that is available now, but none that I know of that says 25 yards are required.

Our position in the previous Navy study was that we would not spend any extra money for mobilization, that we would use the present work available and competition to try to sustain a viable industrial base.

Mr. DYSON. I guess when you are chairman, even if it is only temporary, you can take some liberties. So let me ask one further question. When we reach by 1990 the 600-ship Navy, what will the

Soviet Union have at that point? I realize this may be comparing apples and oranges.

Mr. **Sawyer**. I really don't know, Congressman. Not only is my crystal ball cloudy, but it doesn't speak Russian, so I don't know. Earl, do you have any idea?

Admiral **Fowler** [turns head negatively].

Mr. **Dyson**. Staff has just provided the answer. It says that they will roughly have what they have now. At any rate, thank you very much.

Mr. Spence, do you have any further questions?

Mr. **Spence**. I might just have another one. I don't know if the chairman, Mr. Bennett, might have any additional questions, but we do have to wait for his return.

Mr. Secretary, I just noticed that your office, the Assistant Secretary of Navy for Shipbuilding and Logistics, is a new office with this administration. I personally am happy to see it. I was just wondering, what do you envision as your role in this office? It might be enlightening to people who just aren't familiar with it, and might be of some help.

Mr. **Sawyer**. Well, I think generally the basic job is very similar to what it was before the last administration when it was called Installation and Logistics. The emphasis, of course, is on shipbuilding. My personal background is in ship design, engineering, and construction. So, while I didn't name the job, it suits me.

I probably give Admiral Fowler a much harder time than, say, I do COMNAVAIR or COMNAVSUP or the other systems commands. Certainly the major focus of our programs is in the shipbuilding side. It is a unique area of the Navy. It is an area in which we have had difficulties in the past. I must say that I have put a lot of attention and time into it, primarily from the business management side, of course, but I find it difficult to stay out of some of the other issues also. I hope I am not in people's hair too much, but I have some general decided ideas with regard to how we can best do things. I think generally we work very well together, both the uniformed side and the brown suit side in our department.

Mr. **Spence**. If I might interject, I am happy to see it, too, because just the name itself would focus more attention, I think, on the job of this office, this particular office, on someone like Admiral Fowler, who perhaps in the past people had not heard of as much. It is not a glamorous sort of thing to think of, but he does a very important job, and I think he does a very good job with it. I think people should know about it.

So many people serving in his capacity just go unrecognized because perhaps the name of the program isn't so glamorous. I am happy to see this.

Regarding multiyear procurement, how much did you say was involved? How much had you identified?

Mr. **Sawyer**. Well, for the programs already identified, it was approximately $350 million. That is excluding the CVN program. In other words, that is just the smaller programs.

Mr. **Spence**. Just for multiyear procurement?

Mr. **Sawyer**. Yes, sir.

Mr. **Spence**. Mr. Chairman, did you want to break for a vote?

Mr. DYSON. Well, we are waiting for the chairman to return, but in the meantime, Mr. Kriser has a question.

Mr. KRISER. Thank you, Mr. Chairman.

If Mr. Emery were here he would ask this question. Does the Navy keep in mind the balance in the industrial base when they are assigning vessels for construction or overhaul? With reference to that question, I am particularly interested in the two FFG-7's that are in this year's bill and what effect that might have on the balance of the industrial base with respect to the yards that are involved in building those ships.

Mr. SAWYER. With regard to the 1983 bill, sir?

Mr. KRISER. That's correct.

Mr. SAWYER. Of course, we have not yet developed a specific strategy with regard to the allocation of those resources. It ties in obviously with the second source initiative and should properly do so. In our FFG construction, there is some consideration made with regard to insuring that we consider industrial base issues, as opposed to just pure price. Certainly, the facts there have so indicated. When the number gets down to two, it's like everything else. Then it becomes difficult. One has to weigh all of the factors at that time.

Frankly, it is one of the issues relating to the second source of the CG-47. It is obvious that with two ships we cannot support three shipyards. That is clear. The question is how that work gets split. Price should be the primary object, and, of course, quality and performance. In the case of the FFG's, we have at the current time three well-performing shipyards. It's a very successful program in the terms of execution. Eventually, it will be down to two very well-performing shipyards, and at some point in time we will probably have to dwindle to one.

Mr. KRISER. Thank you.

Thank you, Mr. Chairman.

Mr. DYSON. Mr. Schafer.

Mr. SCHAFER. Thank you, Mr. Chairman.

Mr. Sawyer, on the second source, the Navy currently has two programs where a second source has been sought, the FFG-7 program and the SSN-688 acquisition. What has been the experience there? Have you seen the benefits from competition that you are projecting for the CG-47?

Mr. SAWYER. Well, it is awfully hard to say, Mr. Schafer, with regard to cost versus price. I think in the FFG's you will have to look back and say, what would it have been had it been sole sourced. No matter how you do this thing, you will get into a "what-if" scenario. When it comes to discussion time, and Admiral Fowler might want to amplify this, I see the benefits of that competition very definitely. A lot of it is very positive. I see the advertisements the shipyards run in the Washington Post—who is going to get the most credit for early delivery, for example.

I just think that it is a very positive program. It is a very upbeat and good one. We are getting good ships, high quality. They are turning them out like sausages, and they are competing well. Are we getting price advantages? Of course, these yards are not of equal price. If we were going to award just on price, probably there would be a different situation.

Yes, I think definitely there are positive advantages. Now, that program was planned from the start for second, indeed third sourcing. In the case of our nuclear attack submarines, the history initially was not as good, but even there I see today the benefits of competition very definitely when we talk about a competitive procurement. There I think it has a decided price advantage.

Mr. DYSON. Mr. Secretary, we are going to recess subject to the call of the Chair, which I expect will only be about 5 minutes. Mr. Bennett should be on his way back, but if Mr. Spence and I do not leave, we are not going to make the vote.

[Pause.]

Mr. DYSON. Here is the chairman now. I guess we are not going to have a recess after all.

Mr. BENNETT [presiding]. If there are no further questions of members, and I don't have any questions at this moment, then the staff may continue its inquiry.

Mr. SCHAFER. The proposal to procure two nuclear aircraft carriers in fiscal year 1983, we have had testimony as to what the advantages of the procurement plans are. Is there an alternative way that that procurement can be funded to procure the advantage of lower cost and accelerated delivery which avoids full funding to ships in fiscal year 1983?

There are two possible avenues that at least it appears might work. One would be multiyear funding, as you described for the TAO. That presumably would not require full funding of the second ship in 1983. A second possibility might be just an expanded long-lead funding without any explicit multiyear funding procurement. Did you investigate these alternatives as you were preparing your budget?

Mr. SAWYER. Well, we certainly investigated the latter one, with regard to just using expanded long lead, and as long as we are stuck with the basic definition of fully funded and the constraints therein which apply to shipbuilding, the real benefits with regard to the shipbuilder, from the contractor's side, will not be achieved.

Now, where you can go from that point, and to achieve every dollar saved and month saved in this program, we get out of the realm of just pure dollars and cents and numbers and into psychology. This is an enormous flywheel program, with 35 million man hours for a shipbuilder and 5 years minimum based on the schedules we are talking about, to 7 years for the two current programs. What program stream and commitment basically builds the confidence into the contractor that he will go out and make his commitments, and they are very sizable commitments on his part, to the tune of capital investments of, for example, $150 million. We don't know. We have not gone that far into it.

There are possibly some things that could be done. Certainly this is the best way that can be achieved.

Mr. SCHAFER. For the Trident program, there are two submarines full funded in fiscal year 1983. When do you project that the contract would be let, assuming that that program is approved, and when would construction actually start on those submarines?

Mr. SAWYER. As you know, we have funding for long lead procurement. Our current terms and conditions with electric boat are such that we have two options now in the current contract, so we could be able to go within a few weeks after the funds were appropriated. When construction would start, I haven't looked at the situation in Rhode Island where, of course, a number of ships are being built, but I think they would probably get started on it pretty quickly. I think they could use the work in Rhode Island, or at least that is my guess.

Mr. SCHAFER. Would you provide that detail for the record?

Mr. SAWYER. Certainly.

[The following information was received for the record:]

"OHIO"-CLASS SUBMARINES

Question. For the two *Ohio*-class submarines in fiscal year 1983 budget, how soon after appropriations can award be made and construction started?

Answer. The Navy has fully priced options for both of these ships which can be executed prior to 28 February 1983. Consequently, the contracts can be awarded shortly after appropriation of funds. Electric Boat would be able to start construction on the first of the two ships within a month of contract award. Construction of the second ship would start about six months after the first.

Mr. SCHAFER. That is all that I have, Mr. Chairman.

Mr. BENNETT. We have business on the floor, gentlemen, so we will go. Thank you very much.

[Whereupon, at 3:11 p.m., the subcommittee was adjourned, subject to the call of the Chair.]

SURFACE AND AIR WARFARE PROGRAMS

House of Representatives,
Committee on Armed Services,
Seapower and Strategic and
Critical Materials Subcommittee,
Washington, D.C, Thursday, March 4, 1982.

The subcommittee met, pursuant to call, at 10 a.m., in room 2212, Rayburn House Office Building, Hon. Charles E. Bennett (chairman of the subcommittee) presiding.

Mr. **Bennett**. The subcommittee will come to order.

This morning, we continue our hearings on the fiscal year 1983 Defense authorization bill and welcome Vice Adm. Robert Walters, Deputy Chief of Naval Operations for Surface Warfare, and Vice Adm. Wesley McDonald, Deputy Chief of Naval Operations for Air Warfare, who will address the Navy's budget request for surface ships and related weapon systems.

Yesterday in my opening statement, at the first public meeting of the Seapower Subcommittee this year, I noted that the President and the Navy have set forth a bold and ambitious shipbuilding program with a budget request of $18.6 billion for fiscal year 1983.

The lion's share of that program is in surface ship procurement. Today's hearing will specifically address the details of that procurement.

Items of particular interest to the committee includes: The planned total buy of CG-47 Aegis cruisers; the status of FFG-7 total procurement; the planned procurement of the DDG-51 class ships, particularly their characteristics; the planned total procurement of the LHD-X, the Navy's new multipurpose amphibious assault carrier; the planned upgrading of naval mine warfare ships; the advantages that procurement of two *Nimitz*-class nuclear-powered aircraft carriers brings to the Navy; the progress being made for the service life extension program [SLEP] on the U.S.S. *Saratoga* and U.S.S. *Forrestal* aircraft carriers; and the progress being made on the battleship reactivations.

This by no means covers all of the important issues raised by this year's budget, it is only a sample of the very important issues before the committee in this year's shipbuilding program.

Mr. Spence, do you wish to make a statement?

Mr. **Spence**. Thank you, Mr. Chairman.

In his testimony before the full House Armed Services Committee, Deputy Secretary of Defense Carlucci told us of his Pre-Planned Product Improvement program or P³I, pronounced P cubed I, initiatives. He said that, "the P³I program offers an evolutionary approach to system development that plans for future upgrades." He said further that, "This concept provides for rational incorporation of increasingly sophisticated subsystems, developed and proven over the service life of our weapons systems."

I think the concept of P^3I is particularly applicable to the Navy's new DDGX program. The concept of a variable payload ship, in a mid-size combatant such as the DDGX, which incorporates the technology of ship systems engineering standards and combat system's architecture, appears to be the epitome of what Secretary Carlucci is seeking.

I hope that the Navy will take advantage of the opportunity to incorporate the latest technology for SSES in the new class of over 60 new destroyers. I am particularly interested in knowing how the surface ship "operational" community—the OPNAV side of the house—views the prospective new developments I have mentioned.

Thank you, Mr. Chairman.

Mr. BENNETT. All right, Admiral Walters, you may proceed.

BIOGRAPHICAL SKETCH OF VICE ADM. ROBERT L. WALTERS

Vice Admiral Robert L. Walters was born in Oblong, Illinois, June 25, 1926. Following a year of Navy enlisted duty he entered the U.S. Naval Academy in 1945 and graduated with the class of 1949. His first assignment was aboard the battleship U.S.S. *Missouri* (BB-63) where he participated in the invasion of *Inchon* and in several other naval bombardment missions during the early phases of the Korean War. He subsequently served in U.S.S. *Keppler* (DDE 765), U.S.S. *Norfolk* (DL-1), and successively on the staffs of Commander Battleship Division Two and Commander Cruiser Force, U.S. Atlantic Fleet.

In December 1962, he was Executive Officer on the commissioning crew of U.S.S. *Berkeley* (DDG-15). He then commissioned U.S.S. *Brooke* (FFG-1) as Commanding Officer. This was followed by a tour as Executive Officer of U.S.S. *Providence* (CLG-6) and as Commanding Officer of U.S.S. *Belknap* (CG-26).

In assignments ashore, Admiral Walters has served in the Strike Warfare Division in the Office of the Chief of Naval Operations, as Project Manager for Anti-Ship Missile Defense in the Naval Ordnance Systems Command, as Commanding Officer Naval Ship Weapon Systems Engineering Station Port Hueneme, as Project Manager for Surface Ships, Naval Material Command and as Deputy Commander for Surface Combatant Ships, Naval Sea Systems Command. He attended the U.S. Naval Postgraduate School, Monterey, California graduating with a BSEE degree and attending Auburn University, where he graduated with an MBA. He also attended the Armed Forces Staff College in Norfolk, Virginia and the Air War College at Maxwell AFB, Montgomery, Alabama. During his last tour in Washington, D.C., he also served as Chairman of the NATO Seasparrow Steering Committee which consisted of seven NATO member nations.

In September 1977, Admiral Walters reported as Commander, Cruiser-Destroyer Group EIGHT. As a Battle Group Commander, he served as Commander Battle Group TWO aboard U.S.S. *Independence* (CV-62) in the Sixth Fleet, as Commander Task Force 21 embarked in U.S.S. *Dwight D. Eisenhower* (CVN-69) during GULFEX 79 in the Gulf of Mexico, and in command of other Battle Groups under Commander Second Fleet. In November 1979, he reported to the Office of the Chief of Naval Operations as Director, General Planning and Programming Division/Department of the Navy Program Information Center. On 28 May 1981, Admiral Walters reported to his present duty as Deputy Chief of Naval Operations (Surface Warfare).

Admiral Walters' awards include the Legion of Merit with two Gold Stars, in lieu of second and third awards, the Bronze Star and Navy Commendation Medals with Bronze V for Combat, the Joint Service Commendation Medal, the Combat Action Ribbon and numerous campaign ribbons and unit awards.

Admiral Walters is married to the former Diana Moomau of Petersburg, West Virginia. They have two sons, Andy and John.

STATEMENT OF VICE ADMIRAL ROBERT L. WALTERS, U.S. NAVY, DEPUTY CHIEF OF NAVAL OPERATIONS FOR SURFACE WARFARE, OFFICE OF THE CHIEF OF NAVAL OPERATIONS

Admiral WALTERS. Thank you, Mr. Chairman.

I am certainly happy to be here to discuss the shipbuilding program with you today. As you mentioned, I have Vice Admiral McDonald here, and also Vice Admiral Fowler from the Naval Sea Systems Command.

As you have both mentioned, the groundwork for my discussions with you today has been laid by the Secretary of Defense, the Secretary of the Navy, and the CNO, in their posture statements. I will try to present an overview to you today of the SCN program, and will concentrate on the areas that you have specifically mentioned an interest in.

Also, there will be additional opportunities I am sure for you to get into the areas of Vice Admiral McDonald's interest, and in the area of submarine warfare at later sessions.

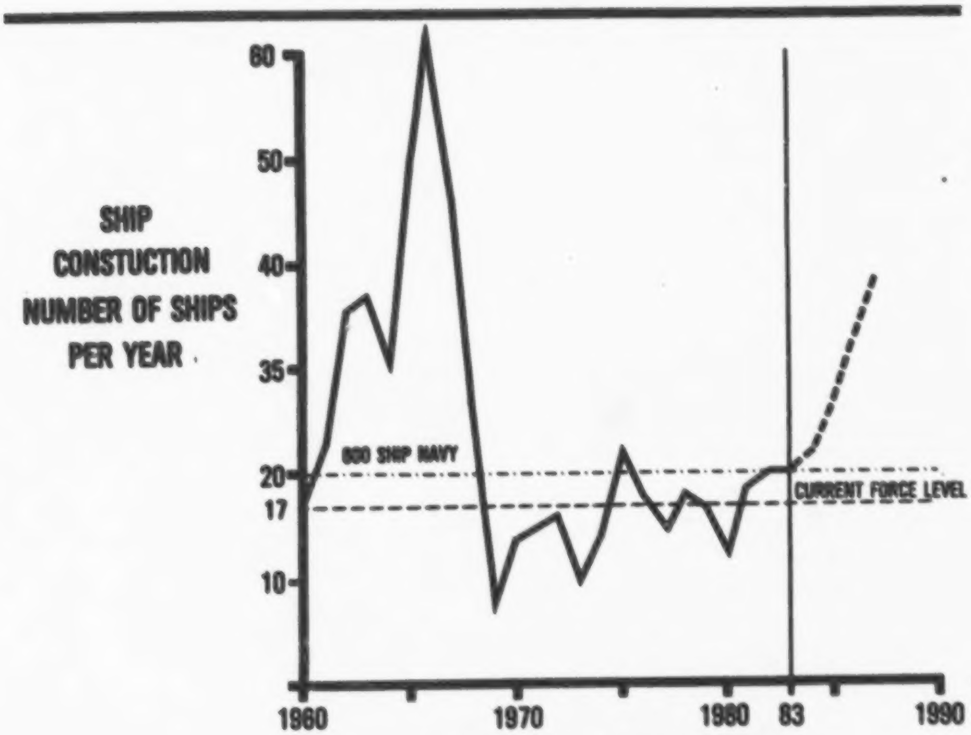
I have submitted a prepared statement for inclusion in the record.

Mr. BENNETT. Without objection, it will be entered in the record.

Admiral WALTERS. My remarks will be as brief as possible to give maximum time for questions in the areas of your interest.

Of course, this is a critical year for the Navy, as has been stated by my superiors. We got started in the 1981 supplement and the amended 1982 budget, and we need to build on that momentum, or we will fall back to the same status we were before in shipbuilding.

SCN TRACK RECORD



FY 82 FORCE LEVEL: 514 SHIPS (30 SEPT 1982)

FY 89 FORCE LEVEL: 605 SHIPS (30 SEPT 1989)

This slide depicts that in the 1960's we built a lot of ships. Since then, we have barely been able to sustain the level of the Navy that we have today, because it requires about 17 ships a year to maintain the kind of Navy we have right now. If we were to go to this number of 600 that has been so popular in various presentations, then we are talking about somewhere in the neighborhood of 20 ships a year that we have to build in order to maintain that force level.

You see on the right of the chart that in 1980 we started the upswing. In 1983, which you are addressing this year, it is a very large budget. The number of ships increases over the 5-year period as it typically does in our SCN plans, and that reflects the building to roughly the 600-ship Navy force level. Now, that doesn't mean you have to sustain those building rates. But we have now covered a period, by 1990, of 30 years. That is the average life of our ships, and in some cases, that is 10 years longer than we originally designed them for, as in the case of the smaller ships.

So we are facing a period of time where we have to take measure of what we want in our Navy. And I think this chart depicts how that has happened over time. It is certainly not an easy task. The shipbuilding costs tend to outrun the Consumer Price Index. This has been characteristic as long as I can remember.

We do run into problems in the vendor base. We are facing high technology in all of our applications. Of course, you must address this in terms of our defense needs versus the classic debate over our economic problems. It is easy for us to ask for what we need, because we know what our requirements are in order to meet the commitments that the Nation has laid upon us. It is a very difficult task for you to wisely walk this path between defense needs and economic realities. So I know it is going to be a tough decision. But we hope sincerely that this will be a year which will steady that commitment, the commitment to the industry that is involved, the commitment to our friends who are looking to the United States for maritime strength, and a commitment to indicate to our potential enemies that we are serious about improving our maritime power.

It is a time for us to redress the tactical and strategic imbalance that has been caused by the incredible buildup of Soviet forces over the last several years.

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NAVY FIVE YEAR SCN PLAN
FISCAL YEAR 1983-1987
CONGRESSIONAL SUBMISSION

	FISCAL YEARS				
	1983	1984	1985	1986	1987
TRIDENT	2/2485.0	1/1703.9	1/1958.3	1/1950.7	1/2043.5
SSN-688	2/1443.4	3/2013.8	4/2972.7	4/3101.1	4/3250.5
CVN	2/6795.3	-	-	-	554.9
CV (SLEP)	1/699.5	166.0	1/752.3	112.5	1/721.9
CG-47	3/3134.4	3/3340.6	3/3523.9	4/4913.1	4/5175.2
CGN-42	-	-	-	903.7	1/2574.4
BB (R)	1/417.4	1/480.0	1/354.7	-	-
DDGX	-	107.9	1/1378.1	451.5	3/4062.9
DD 963	-	-	-	2/1737.1	1/802.3
FFG-7	2/666.4	2/774.8	2/813.4	3/1274.8	3/1348.9
LHD-1	55.0	1/1328.1	-	123.3	1/987.6
LPDX	-	-	-	-	119.9
LSD-41	1/417.0	1/477.2	2/861.4	2/840.4	2/647.5
MCM	4/371.6	4/342.3	5/448.5	-	-
MSH-1	-	1/73.1	-	5/269.0	5/273.6
AOE	-	-	1/798.4	1/610.1	2/1272.4
AE	-	-	1/499.6	2/825.3	1/431.6
AD	-	-	-	1/495.9	1/485.1
AGOS	24.3	1/183.7	-	2/359.0	3/555.9
ARS	1/84.0	1/68.5	-	-	-
TAO	1/320.0	3/530.4	4/1081.5	4/1082.6	6/1708.1
TAH(C)	1/300.0	1/260.0	-	-	-
TARC	-	-	-	1/351.9	-
TAGM(C)	-	-	44.1	1/80.4	-
TAGS(C)	-	32.9	2/179.8	-	-
TAK(C)	-	2.9	1/77.5	-	-
TAKRX(C)	4/322.6	-	-	-	-
LAND CRAFT	83.1	144.8	281.7	302.2	312.8
SERV CRAFT	79.0	66.6	264.0	106.5	138.5
OUT	136.4	125.2	138.8	149.0	148.4
PD	168.3	114.1	168.6	144.2	189.9
COST GROWTH	314.2	-	-	-	-
ESCALATION	209.2	-	-	-	-
SHIP DESIGN	97.2	118.9	157.7	207.7	268.8
MFG TECH	25.0	-	-	-	-
TOTAL	**18,648.3**	**12,455.7**	**16,752.6**	**20,391.8**	**28,074.6**
NC/C,R,SLEP	**18/7**	**21/2**	**24/5**	**32/1**	**38/1**

With that, I would like to show you the 5-year shipbuilding plan. I realize that last year there was concern in the Congress that we did not have a 5-year shipbuilding plan. We were going through the transition to a new administration, and it was very difficult, in the process of working the amended budget and the supplements, to get all of this laid out. We do have the 5-year shipbuilding plan for you now, which is shown here and will be included in my statement.

What it represents is the number of ships required to get roughly to the 15 carrier battle group Navy. Now, in all cases the exact type and mix of ships will be determined by what is approved by the Congress. We have structured a 5-year plan that will get us the kind of capability that we need in the late 1980's. I am talking about the 1989 or 1990 timeframe.

The current fiscal year plan builds 133 ships. If you add these to the 102 that have already been appropriated and are still in the building phase, or waiting to start building, plus 16 conversions and reactivations, this would add approximately 250 ships over the next 10 years.

Obviously we do not net an increase of 250 ships because we have some older ships now, oilers which are over 35 years old, for example. So there are ships which have to be phased out. But clearly, this kind of shipbuilding program reverses the trends which I showed you in the first chart, and it gives a clear signal to anyone that we are serious about regaining maritime superiority.

Mr. **Bennett**. I notice two things that you haven't had in the past. The last two items—ship design and manufacturing technology. What are these funds for, and why are they included in the shipbuilding project?

Admiral **Walters**. Ship design in 1973 became an R. & D. appropriation. We have looked at this carefully over the years, and have determined that leaving ship design in R. & D. does not serve the process as well as splitting this into two areas, two appropriations. In the design process for ships, there are feasibility the studies, concept design and preliminary design. These are areas in which there is primary Government involvement, with some contractor assistance in these designs. They are areas where you are conceptually designing a ship and they are properly in R. & D.

When you get to the contract design, you are preparing a design that is ready for a bid package. We do not consider that as developmental in nature. The decisions have been made. We are then in the process of defining a construction design for a ship to be bid to industry. That, is followed by detailed design, which involves the thousands of prints that are used by the workers to construct ships.

We have chosen to bring this up this year as a means of improving our business process, to divide this into the two design areas, so that perturbations which frequently occur, in the R. & D. budget will not upset the business and construction approach to building ships.

Mr. **Bennett**. You are telling me if you left it in R. & D., and if there was a conservative view in Congress at that time about R. & D. it would interrupt something that is a practically going thing, that has nothing really to do with R. & D.?

Admiral **Walters**. Mr. Chairman, that is one way of stating the problem. We have, for example, experienced R. & D. cuts and we have these programs frequently cut because the R. & D. cuts are usually across the board reductions.

Mr. **Bennett**. You are telling me that doesn't really relate to R. & D., and therefore, you want it here because it is just a procedure to build the ship you have decided to build?

Admiral **Walters**. That is correct.

Mr. **Bennett**. How about the manufacturing technology?

Admiral **Walters**. Manufacturing technology I will ask Admiral Fowler to respond to, because that is really his bailiwick.

Admiral **Fowler**. Mr. Chairman, manufacturing technology is sort of seed money to enhance industry's improvement of productivity. I think you recall Mr. Sawyer talked about that as one of the initiatives yesterday afternoon. We have several programs going on with the CVN, the TAO, that is in this budget, and others to induce industry to find ways to build things at less cost and better.

Mr. Bennett. Is this a new item that never appeared anywhere in the budget before?

Admiral Fowler. No. It has been around for many years.

Mr. Bennett. Where has it been?

Admiral Fowler. I can't answer you off the top of my head, Mr. Chairman.

[The following information was received for the record:]

In the past, the program has been too small to get a lot of visibility. We are trying to turn that around and generate some meaningful benefits in cost, lead-time reductions and preparedness of the shipbuilding industry.

Mr. Bennett. It doesn't look like it would be in R. & D.

Admiral Fowler. It might have been an R. & D. item in the past. I would have to check exactly what line item that was in.

[The following information was received for the record:]

I think we have had a related R. & D. line item, but that is distinctly different from what we are proposing here in the SCN budget. With the R. & D. money, we are conducting advanced development of innovative manufacturing methods to establish their basic technical feasibility. The SCN line item will result in the installation of improved production equipment, tooling and methods.

Admiral Walters. Manufacturing technology has been a subject of discussion for many years. I am not sure it is whether it has been in R. & D. or not.

Mr. Bennett. Staff wants to ask a question.

Mr. Schafer. Admiral Fowler, could you provide an example of how this money might be used? For example, at Newport News, I presume if we are talking about carriers.

Admiral Fowler. A new welding process, for instance, would be a good example. I am thinking of one in particular. I saw a new robot being used at Todd Seattle, as a good example, that was developed in cooperation with the Society of Naval Architects and Marine Engineers as a new approach, using robotics.

Mr. Schafer. Why is it felt it is necessary to fund this over and above, for example, multiyear procurement, or full funding of two ships? The argument that has been put forward is that we gain the advantages of seeing the contractor invest his own funds to facilitate construction. Why is there a separate line item of Government money here also necessary?

Admiral Fowler. I think that is a very good question. You have to put that in perspective with what the Government's commitment is really going to be in terms of going ahead with some of these long term-programs. There is a lot of skepticism which I think is perfectly justifiable in the industry that our 5 year plans are not very sacred plans, that we change those plans drastically from year to year, and if we were in business, I would be very skeptical about putting up my I. R. & D. money, or taking money out of profits and going for some long-term improvements that might improve productivity over a number of years, but on the short term, would be really an outlay, and as a result, I might not get that future program that looks like it is going to be real nice there in the 5 year plan but just doesn't materialize.

I think there is a healthy skepticism in the industry about making those kinds of commitments. It is going to take a few years for us to turn that around by having more stable programs they can really count on. So what we do with the manufacturing technology is try to generate ideas, put a little seed money out, get some people thinking about some things, really find out can this thing be done, is it a good thing to do, and in hopes that when the programs are there the industry is going to pick those things up and move out of them.

Mr. **Schafer**. Thank you.

Mr. **Bennett**. Well, we understand what it is but I am not entirely convinced.

What is the total amount of money?

Admiral **Walters**. $25 million.

Mr. **Bennett**. As with all Federal defense dollars, be real careful you don't waste them.

Admiral **Walters**. Yes sir.

If I could have the next slide, we will concentrate on the fiscal year 1983 shipbuilding program.

FY 1983 BUDGET

SHIPBUILDING AND CONVERSION NAVY (SCN)
($ IN MILLIONS)

PROGRAM	NUMBER	BUDGET REQUEST
TRIDENT (SSBN)	2	2485.0
ATTACK SUBMARINE (SSN)	2	1443.4
AIRCRAFT CARRIER (CVN)	2	6795.3
CARRIER SLEP (CV-SLEP)	1*	699.5
GUIDED MISSILE CRUISER (CG-47)	3	3134.4
BATTLESHIP (BB)	1*	417.4
GUIDED MISSILE FRIGATE (FFG)	2	666.4
LANDING SHIP DOCK (LSD)	1	417.0
AMPHIBIOUS ASSAULT SHIP (LHD)	-	55.0
OCEAN SURVEILLANCE SHIP (AGOS)	-	24.3
SALVAGE SHIP (ARS)	1	84.0
MINE COUNTERMEASURES SHIP (MCM)	4	371.6
FLEET OILER (TAO)	1	320.0
HOSPITAL SHIP (TAH)	1*	300.0
FAST LOGISTICS SHIP (TAKRX)	4*	322.6
CRAFT		162.1
SHIP DESIGN		97.2
COST GROWTH		314.2
ESCALATION		209.2
OUTFITTING		136.4
POST DELIVERY		168.3
MANUFACTURING TECHNOLOGY		25.0
TOTALS: 18 NEW CONST * 7 CONVERSIONS	25	$18,648.3

This includes 25 ships, 18 new construction, and 7 additional reactivations, conversions and SLEP's. I am going to go through each one of these individually and discuss the program.

Now, this represents a large increase in the SCN budget, and we recognize that. As I go through each of the programs, I will explain what they are, why we feel we need them, and in the case of a couple of them, why those represent such a large proportion of the SCN budget.

Mr. **Bennett**. Explain about the attack submarines.

Admiral Walters. We have announced our intention to increase the attack submarine force level from about 90 today to a 100, to be in keeping with the 15-battle group Navy.

Mr. Bennett. You are not building enough to have the 90. It is nice to have a higher goal, but you are not even achieving the 90 at two a year.

Admiral Walters. We are going to achieve the 90. Now we are going to require——

Mr. Bennett. You won't at the rate you are now building.

Admiral Walters [continuing]. About 3½ a year to get there. We have been trying to come up with a balanced program. We have looked at those areas where we have the greatest deficiencies in force levels. Even with this kind of a budget, there are constraints in how much you can do for a given amount of dollars. We have chosen to present this balanced program because some of the other things that we are requesting are farther away from their force level objectives than are the attack submarines.

Mr. Bennett. That isn't true of FFG's, is it?

Admiral Walters. No sir.

Mr. Bennett. I guess you are entitled to have exceptions. Go ahead.

Admiral Walters. Yes sir. We are only building two FFGs, for example, where we have been building four.

Mr. Bennett. You are near your goal though?

Admiral Walters. Yes sir, we are. That is why we are only building two.

We now go to the Trident. This is one of the big items in dollar terms, and in importance.

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We have asked for two in fiscal year 1983—first to build the one we need to build every year, and then to replace the one that was not authorized last year. We need to keep this production line going. It is a very critical addition to the Nation's defense in the strategic sense. We need to avoid disrupting the production line.

We have resolved our problems at Electric Boat and things are going well up there. The *Ohio* has been delivered, and has been on trial. From all the reports we get it is one of the finest warships we have ever built in this country. So we feel that if we are going to continue to provide our share in the Navy for the Nation's strategic deterrence, we need to keep this program going. So, we have asked for two at the cost of $2,485.0 million.

TRIDENT-SSBN

[Dollars in millions]

	Fiscal year—	
	1982	1983
Number of ships	0	2
Cost		$2,768.2
Less advance procurement from prior years		$527.1
Plus advance procurement for future years	$330.7	$243.9
Net funding requirement	$330.7	$2,485.0

Mr. BENNETT. How many Tridents are going to be in the fleet when you get it all built?

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Admiral **Walters**. It will depend a great deal upon the shifting of the target base among the Triad. But our best estimates are in the 20 to 22 range at the time.

Mr. **Bennett**. Twenty to 22?

Admiral **Walters**. Yes sir. But that is an approximation because you have to look at what the status is of the Triad, what the target base is, and then you determine what part of each of those you want. But we in the Navy think that is somewhere in the 20 to 22 range is probably the right number.

Are there any other questions on this?

If we could go to the attack submarines.

Mr. Chairman, you have indeed expressed concern over this, and we are concerned as well, because we do need to build our attack submarine force up. And this has been a tough choice. We have requested only two, and we are going to have every intention of making up that lost number in succeeding years where the balance permits us to do that.

NUCLEAR ATTACK SUBMARINE SSN-688

[Dollars in millions]

	Fiscal year—	
	1982	1983
Number of ships	2	2
Cost	$1,095.5	$1,196.8
Less advance procurement from prior years	150.4	169.4
Plus advance procurement for future years	397.9	416.0
Net funding requirement	1,343.0	1,443.4

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Mr. **Bennett**. OK. You don't have to sell us on that. We are sold on that.

I don't think anybody has a negative feeling about attack submarines. We are running short on them. Go ahead.

CVN
MISSION

Admiral **Walters**. All right. This is the CVN. Now, the Department of Defense offered a lot of new initiatives this year in defense procurement. One of them is called multiyear procurement. This is one of the means of utilizing the multiyear procurement for a multiship procurement. This program as presented to you this year represents full funding initiatives that will offer a savings of about three-quarters of $1 billion, we think, and permit the early delivery of each of these ships by nearly 2 years, and provide a shipbuilding base to that contractor, which will encourage him to meet an option he has to also deliver the preceding carrier about 14 months earlier.

Mr. **Bennett**. With the attacks being made on defense dollars at this point, building two of these large carriers in 1 year is going to make an obvious place to attack. Therefore, I think you ought to bring in some strong language, if you can, that will support your proposal.

I am not sure what it would be. Maybe it is not possible, but I think most Members of Congress will have been sold on the idea we need the two carriers, but they will be looking for places to save money. It is a logical place to look. So if there was some way in which we could assure the contractors that they are going to have this business in the future, perhaps by a recision with regard to the statutes, the fact that you have to have full funding—in other

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words, make a full obligation, have a contract ability despite that existing law about full funding for this particular carrier.

I am just trying to say to you that is likely to be the first level of attack. Unless you have some language that will allow you to get all the benefits of the multiyear procurement without full funding, you might lose one of these carriers, and if there is some way of doing it, putting language in the bill—I am sure you can do it.

NUCLEAR POWERED AIRCRAFT CARRIER CVN

[Dollars in millions]

	Fiscal year	
	1982	1983
Number of ships	0	2
Cost		$7,270.3
Less advance procurement from prior years		−$475.0
Plus advance procurement for future years	$475.0	
Net funding requirement	$475.0	$6,795.3

Admiral Walters. This is, of course, the concern we had when we looked at our requirements. We have talked about building the 15 carrier battle groups. Obviously, if you are going to do that, we have got to build the carriers. We looked at other options of extended advance procurement.

Mr. Bennett. I think this committee is probably thoroughly sold on the two carriers, because you are going to save $750 million. All I am telling you, when it gets to the floor there will be an effort to remove one of the carriers. If there is a way in which you can succeed by revising the statutes, that might be a very good way to do it.

I don't know just how to do that. The only reason you have to have full funding is because there is some statute that says that. I would suggest you ought to get the language together so we can think about it.

Admiral Walters. Yes sir.

Mr. Bennett. Mr. Schafer thinks there is no law that requires full funding. But it has been a tradition. It is difficult to repeal a tradition by law. Maybe you could make it specific that it is done and back up in the report the reason that tradition is being amended at this point is because of the exigencies of going forward with this savings.

Admiral Walters. Yes sir. I am reminded of what the Secretary said when he was over here, that we have presented to you the option and this is something that will have to be resolved in the Congress and we will certainly go back and work on that specific problem with some language.

Mr. Bennett. See if you can get a legislative amendment. If we get attacked on the floor about this ship, that I might have a fallback language that makes sense that we would be able to pass, to get the advantage of full funding despite the fact that it won't all appear in this budget. Try to find something.

Admiral Walters. We will work on that.

Do you have anything to add at this point?

Admiral **McDonald**. No sir. I will respond to any other questions you may have.

Mr. **Bennett**. We might wrap that up by saying for years the Joint Chiefs of Staff have said we need at least 15 carrier groups, and the only reason we have had less is because we could not afford them.

Admiral **McDonald**. With the SLEP program for ships, we have kept older carriers on the active rolls. We have tried to maximize the number of carrier battle groups we could put to sea, Mr. Chairman. With the commitments the Navy is facing today, as you are well aware, it has been stated unequivocally by the Secretary of the Navy, confirmed by the Secretary of Defense, and supported by the President, that 15 carrier battle groups are the minimum required to meet the national objectives in this country today.

Mr. **Bennett**. I don't know how long it has been the position of the Joint Chiefs of Staff, but I know it has for many years.

Admiral **Walters**. Admiral Fowler has something to add.

Admiral **Fowler**. We have had the full funding concept for a long time, Mr. Chairman, as you know. It was brought about because the Congress wanted to hold us accountable for delivering a ship that came out costing what we said it was going to cost originally. I support that. But I believe we can modify that on a single program exception basis that could work in this case. But it is very important to know that the very essence of getting all of these savings that we project we will get is because we make a full and unqualified commitment at the very outset that we are going to build two carriers, and we are going to fund them at a rate that is appropriate to efficient production.

And if we don't make that commitment at the very front end, or some way back away from that commitment over the years of execution, then we would not get those savings that we anticipate.

Mr. **Bennett**. You are raising the question of whether there is any language you could get to do this. I don't know whether there is or not.

These are not really controversial parts of the program I don't think. Anybody want to ask about the carriers? If not, we can go to the next point.

Admiral **Walters**. Yes sir.

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MISSION
CV SLEP
To Operate Aircraft And Engage
In Attacks On Targets Afloat And Ashore

The next involves the carrier service life extension program. As you know, our program is that as these ships approach 30 years, we go in and do the kinds of things that have to be done throughout the ship structurally, in the piping systems, electrical systems; everything required to make them last another 15 years. We have put an awful lot of effort into this. Of course, the first ship is in the shipyard now, and *Saratoga* is proceeding very well.

As a matter of fact, when we originally looked at this program, we were talking about four. As we have examined how we are going to meet our carrier requirements, we are now planning to extend this program to all of the big deck carriers because we can now see the time when many more are going to get to that 30-year state, and we are going to have to extend them.

Overall, when you include all of our big deck carriers, we are talking about adding over 130 years of carrier ship life to the Navy. That is a pretty significant addition.

CARRIER SERVICE LIFE EXTENSION PROGRAM CV–SLEP

[Dollars in millions]

	Fiscal year—	
	1982	1983
Number of ships	0	1
Cost		$698.5
Less advance procurement from prior years		–$162.0
Plus advance procurement for future years	$81.0	$163.0
Net funding requirement	$81.0	$699.5

What we are requesting this year, of course, is the full funding for the second of the carriers, the *Forrestal.*

Admiral **McDonald.** I would like to provide an update, Mr. Chairman, on the progress of the *Saratoga.* She is approximately 73 percent completed in her SLEP as far as work to be done; in terms of time, it is just a little over half expired. So we are running slightly ahead of schedule. The more difficult tasks, such as lighting off the machinery and testing, are still ahead. I am optimistic, and I think it will come out on time as we had hoped it would. Right now those predictions look very good, sir.

Mr. **Bennett.** Fine.

Admiral **Walters.** Next one.

The next is the Aegis cruiser, which is the CNO's highest priority in surface combatants.

MISSION
CG-47

The first of this class is afloat and is on schedule. I understand just this week for the first time in the history of the Aegis system, all four phases of that radar were lighted off and operated. The ship is scheduled to go to sea in May for its first set of trials and is scheduled for commissioning in January of next year.

It represents the only solution that we have to the highest order of Soviet threat that we are looking at. It has the latest technology, and the firepower to deal with anything that we can visualize that the Soviet Union will have over the next several years.

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AEGIS CRUISER CG-47

[Dollars in millions]

	Fiscal year—	
	1982	1983
Number of ships	3	3
Cost	[1] $3,105.7	$3,132.9
Less advance procurement from prior years	−$129.0	−$20.7
Plus advance procurement for future years	$20.7	$22.2
Net funding requirement	[1] $2,997.4	$3,134.4

[1] Includes $80.0 million in fiscal year 1982 supplemental.

Because of the importance of the threat we need to get these ships out to the fleet to fill a vacuum in our battle forces. Thus the request for three this year.

Mr. **Bennett**. Go ahead. We are not going to ask questions as you go along. I am sorry I have done that. There is a lot of questions I have about this ship, the second source and all that, but we will leave it until the end.

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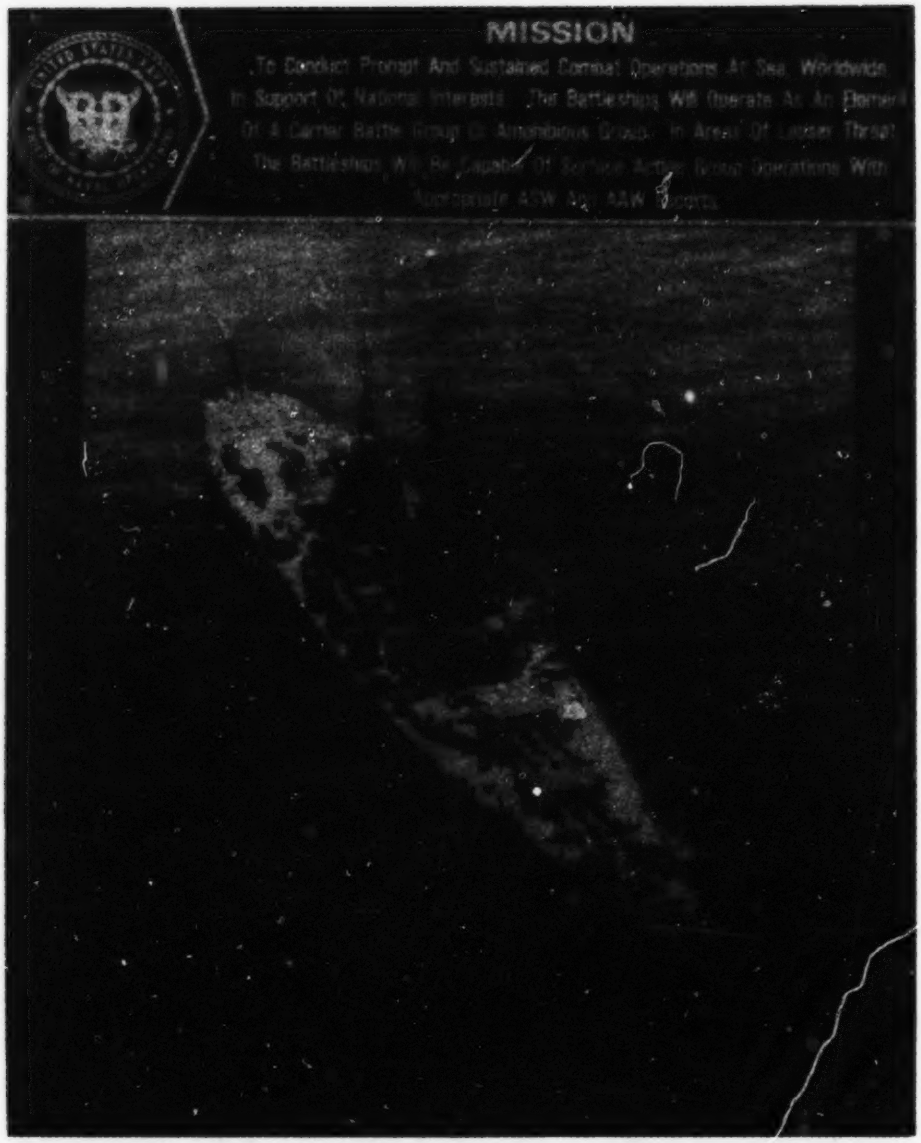

MISSION

.To Conduct Prompt And Sustained Combat Operations At Sea, Worldwide, In Support Of National Interests. .The Battleships Will Operate As An Element Of A Carrier Battle Group Or Amphibious Group. In Areas Of Lesser Threat The Battleships Will Be Capable Of Surface Action Group Operations With Appropriate ASW And AAW Escorts.

Admiral **WALTERS**. The battleships reactivation. First of all, I want to report that the *New Jersey* is on schedule and within cost. The addition of Harpoon and Tomahawk cruise missiles to that ship and those which would follow, add a new dimension to the firepower of the Navy. These are the most survivable ships, surface ships, that we have. I think the concept is superb, the way we are arming them and the way we intend to use them, and the price is right. Actually, the *New Jersey* will be the first surface ship to sea with the Tomahawk missile, and it will be the first ship in the Navy to have both of our cruise missiles—Harpoon and Tomahawk—installed

Mr. **BENNETT**. You used it in the Vietnam war?

Admiral **WALTERS**. The *New Jersey* was in the Vietnam war, yes sir.

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Mr. **Bennett**. A lot of people think it is an antique.

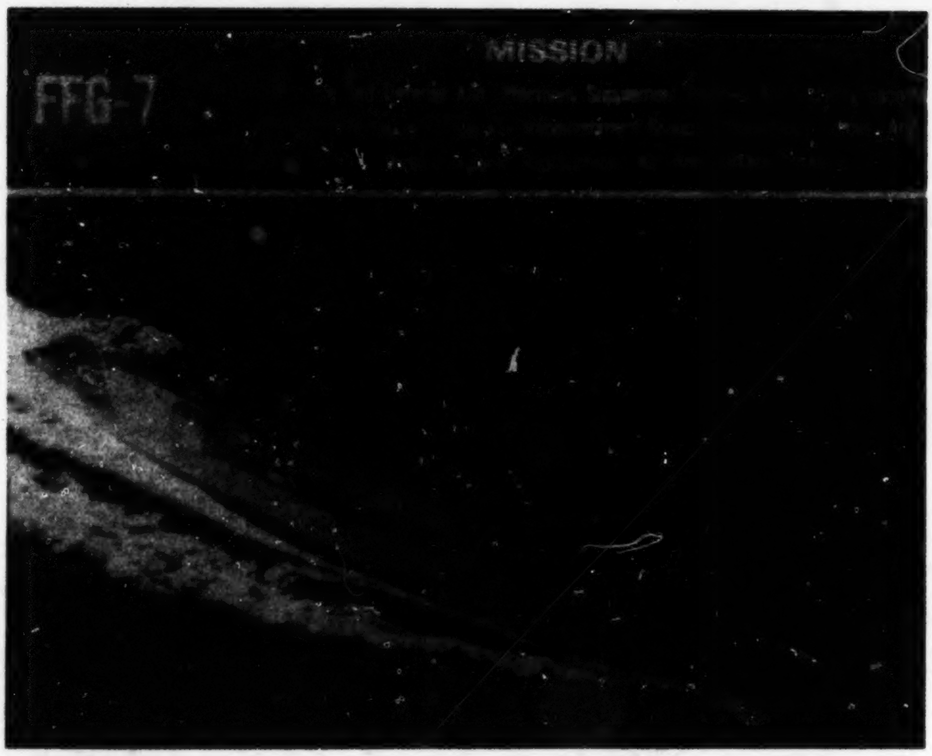
Admiral **Walters**. Those ships in operating time have an average operational age of about 10 years. I visited with the Vice Chief of Naval Operations on the *New Jersey* in Long Beach just shortly before Christmas. I had not been on a battleship for many years, and I was tremendously impressed with the condition of that ship. It has obviously—those ships have obviously been laid up with great pride, and they represent a building technology that existed at the time they were built that is different than what we use today in naval ship construction.

BATTLESHIP REACTIVATION–BB(R)

[Dollars in million]

	Fiscal year—	
	1982	1983
Number of ships	1	1
Cost	$326.0	$411.4
Less advance procurement from prior years	–$89.0	–$88.0
Plus advance procurement for future years	$88.0	$94.0
Net funding requirement	$325.0	$417.0

The funding that we are requesting this year is the full funding for the second ship, *Iowa*, and long lead for the third ship.



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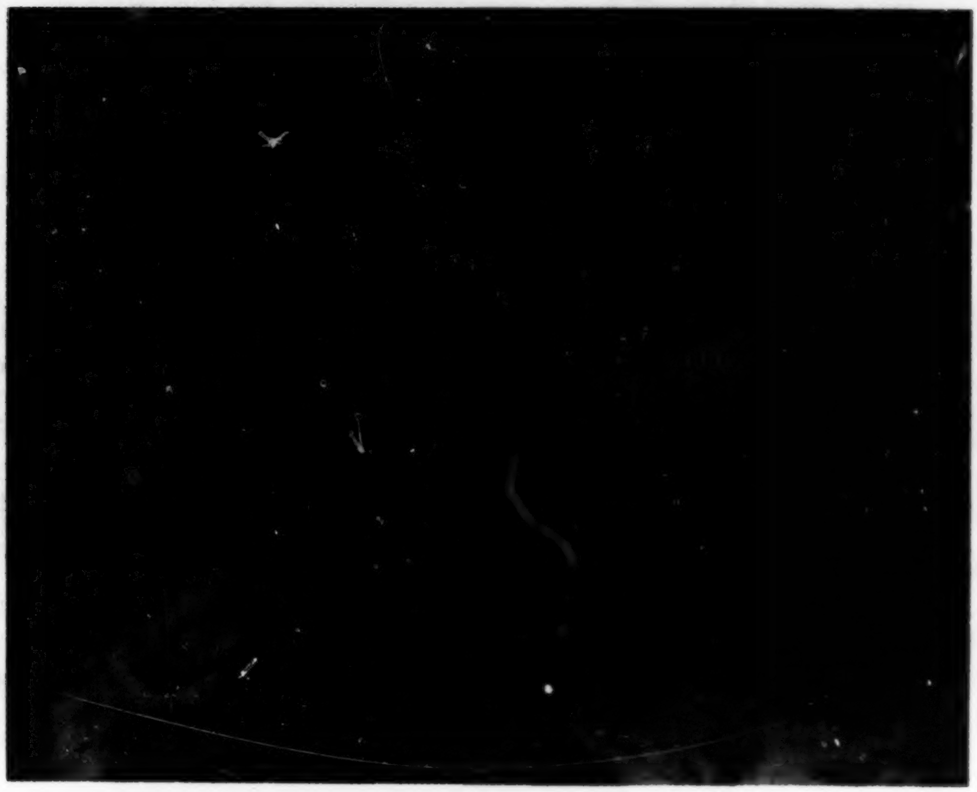
The next is the frigate. You are very familiar with the FFG–7 class ship. The plan continues this construction. The marriage of the Lamps III capability with this class ship has gone well. We have just completed the operational evaluation. We are now proceeding into production of the Lamps III.

GUIDED MISSILE FRIGATE FFG–7

[Dollars in million]

	Fiscal year—	
	1982	1983
Number of ships	3	2
Cost	$917.4	$666.4
Less advance procurement from prior years		
Plus advance procurement for future years		
Net funding requirement	$917.4	$666.4

Now, the reason that we are requesting two, which is a decline from what we have been requesting in the past is that we are approaching force level objectives faster than we are in some of the others ship types. We do intend to buy 12 more of these because we have recently determined that this class of ship is ideal for the Naval Reserve Force. The 24 NRF ships that we have talked about in our plan is probably going to consist of six to eight FF–1052's, the first two of which have been inducted into the NRF, and 16 to 18 of the first flight of the FFG–7's. This will provide a very, very modern Naval Reserve Force for ASW work.



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We next go to the LSD. The LSD–41 is one of two amphibious ships that we are presenting to the Congress this year. This class is already started. This will be the third ship of the class, and it is designed to replace an older class of ship, the LSD–28 class on less than a one-for-one basis, because this is a more capable ship. The exchange ratio is less than 1 to 1, and we will utilize this ship as one of the building blocks to increase the amphibious lift capability which is part of what comprises the "600-ship Navy."

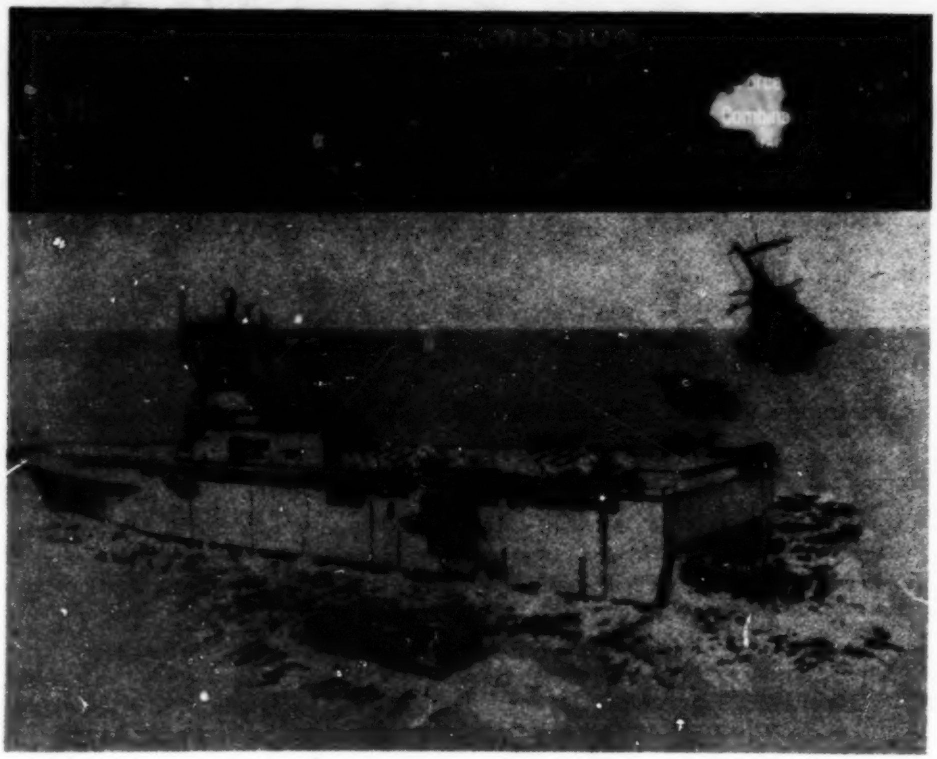
LANDING SHIP DOCK LSD–41

[Dollars in million]

	Fiscal year—	
	1982	1983
Number of ships	1	1
Cost	$344.8	$379.2
Less advance procurement from prior years	–$47.0	
Plus advance procurement for future years		$37.8
Net funding requirement	$297.8	$417.0

LSD–41 will have increased lift to meet Marine Corps requirements, and it will accommodate the new air-cushion landing craft that we are building.

This request is for a 1983 ship and includes long lead for a 1984 ship.



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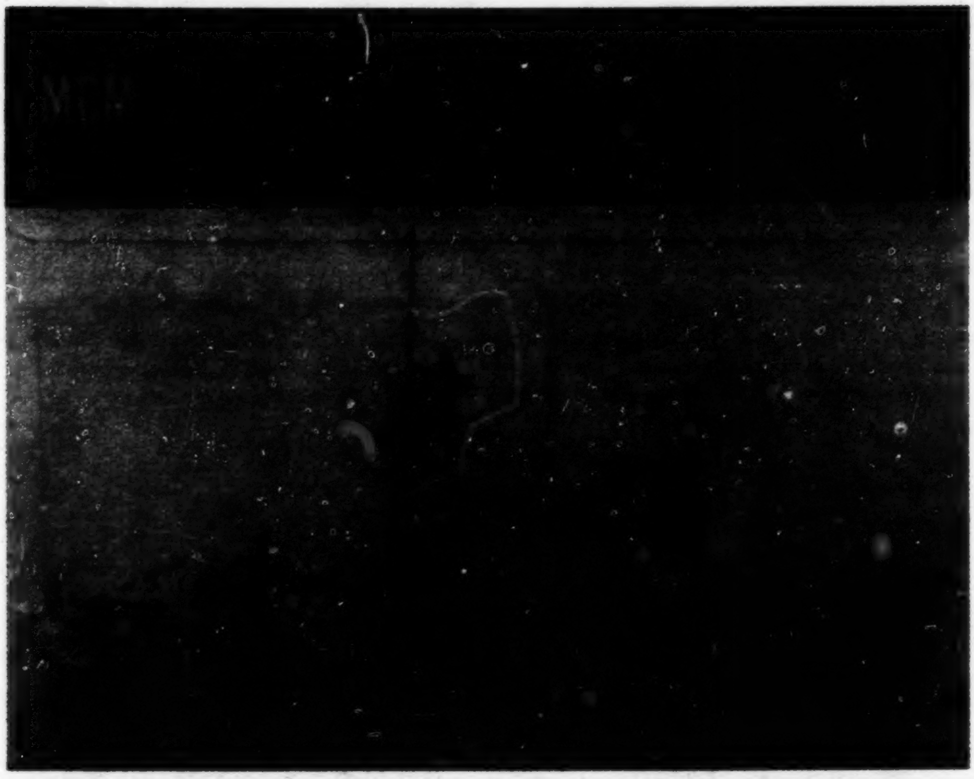
The next ship, LHD-1—formerly referred to as LHDX—is a new ship that we propose to full fund next year. Last year, we presented this ship as a convertible amphibious ship. I think this represents a very fine approach in our new, larger amphibious ships. It has the capability to support the amphibious role and it also has the ability to be converted to support a sea control role using V/STOL aircraft.

AMPHIBIOUS ASSAULT SHIP LHD-1

[Dollars in millions]

	Fiscal year—	
	1982	1983
Number of ships	0	0
Cost		
Less advance procurement from prior years		
Plus advance procurement for future years	$45.0	$55.0
Net funding requirement	$45.0	$55.0

This will be the second year of long lead funding. Last year's money will be used to cover things associated with machinery and the propulsion plant. The long lead funding this year will cover those things that will comprise the sensors and the combat system.



Mine countermeasure ships. I need not remind this committee that mine countermeasures have been neglected in the Navy for quite a while, from the standpoint of modernization. We have 25 minesweepers, of which 22 are in the Reserve Force now, that are over 25 years old. We have a program to build about 30 new mine countermeasure ships. We are looking at the total mine countermeasures problem from the standpoint of what is an acceptable risk strategy in providing mine countermeasure forces.

MINE COUNTERMEASURES SHIP MCM

[Dollar in millions]

	Fiscal year—	
	1982	1983
Number of ships	1	4
Cost	[1]$117.9	$371.6
Less advance procurement from prior years		
Plus advance procurement for future years		
Net funding requirement	[1]$117.9	$371.6

[1] Includes $19.0 million in fiscal year 1982 supplemental.

We have determined that it is going to require some very capable ships that will do deep water mine hunting. It is going to require some less capable ships to take care of harbors and Continental Shelf problems, and it is going to require helicopters which have the capability to do any of these missions, but with, some depth limitation.

The MCM ships this year are the 4 follow on ships in the class of what will be 14 ships to provide the high mix, as we call it, part of this mine countermeasures force.

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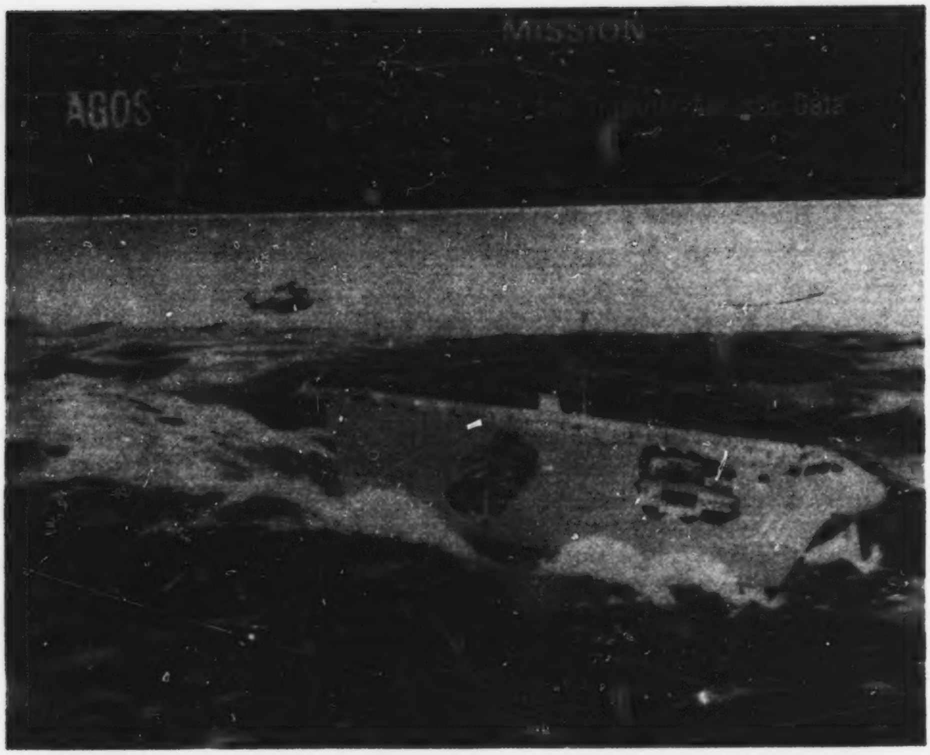


The Agos is an effort to take advantage of new technology in unconventional hull forms. We have in the past had approved by the Congress 12 Tagos ships which are designed to tow an array for acoustic detection. We have a requirement that varies between 18 and 24 of these ships, depending upon how you calculate it, and we have built the first half.

One of the problems that we foresaw in these ships is that the original Tagos ships are very small, and as we look into some of the areas of the world in which we need to operate these ships, we are concerned about the stability of the platform. That not only has to do with how effective the towed array is, directionally, but also the comfort and survivability of the crew over a long period of time.

Mr. BENNETT. Well, you found it impractical to put this on another ship. I always wondered about that. Also, didn't you call it Tagos last year?

Admiral WALTERS. Yes sir.

Mr. BENNETT. You changed the name?

Admiral WALTERS. No sir, it is the same. "T" stands for the fact that we have a civilian crew under MSC. Like the TAO versus the AO. The TAO is civilian manned, AO is military manned. This will be a military manned ship. The reason is that we are looking at the last six of these ships to be employed in the higher threat areas, to the point where we think we should have military crews on them.

This ship will have much better sea keeping qualities, and it gives us an opportunity to employ the SWATH technology, which has been worked in R. & D. and on the drawing board for years. This is an ideal application of the SWATH technology, giving us the platform stability in the high seas, and permitting us to get a little more speed in order to get these ships into its area of operations.

Mr. **Bennett**. Why is it cost effective not to do it on some other ship?

Admiral **Walters**. That is a hard question to answer. You mean a ship——

Mr. **Bennett**. You must have given some thought to putting this function on another ship?

Admiral **Walters**. Frankly, we have not. This function on another ship, no sir. We originally looked at a ship that was sufficient to tow the array and to carry a crew that can analyze the data and transmit it ashore. Here we are looking for a ship that is a more stable platform.

Mr. **Bennett**. Sir?

Admiral **Walters**. I say here we are looking for a ship that is a more stable platform and can operate in the higher sea states that we would find in the Northwest Pacific and North Atlantic.

Mr. **Bennett**. The answer is, this had to experience something that we would not want your ordinary ships to experience?

Admiral **Walters**. Exactly.

Mr. **Bennett**. That is what I wanted to know.

Admiral **Walters**. I guess I just didn't understand the thrust of the question.

Mr. **Bennett**. I wonder why you are building a special ship. You are telling me because it gets into heavier seas.

Admiral **Walters**. We are looking at this ship being able to operate in sea state 7, which is the kind of seas you find in some of the areas of the world where we know we will want to employ it.

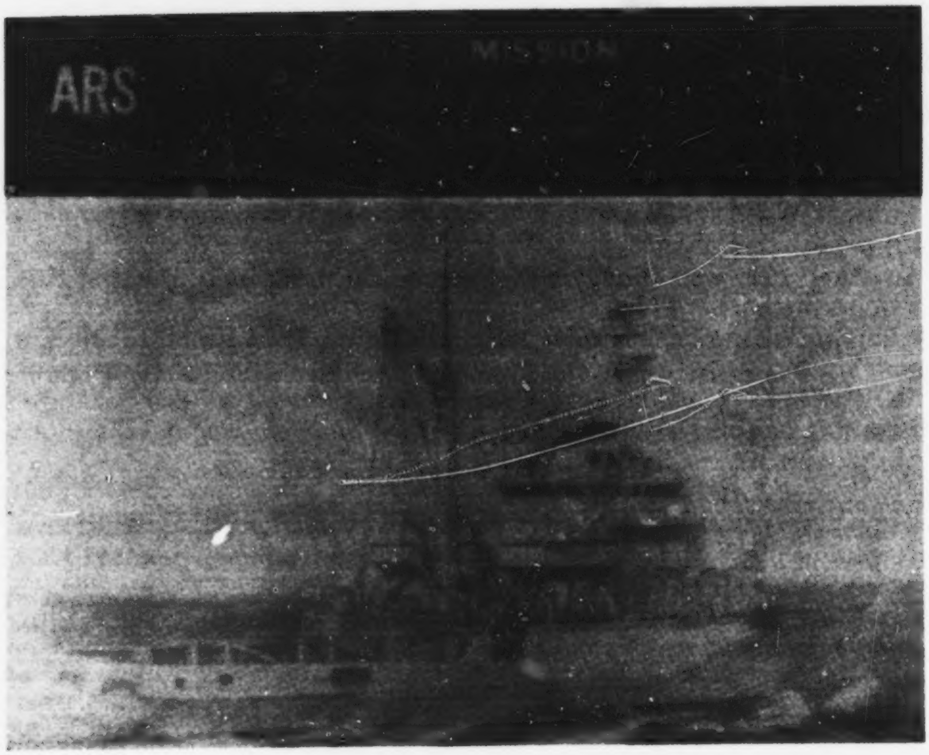
Mr. **Bennett**. This is the end of the buy?

OCEAN SURVEILLANCE SHIP AGOS

[Dollars in millions]

	Fiscal year—	
	1982	1983
Number of ships		0
Cost		
Less advance procurement from prior years		
Plus advance procurement for future years		$24.3
Net funding requirement		$24.3

Admiral **Walters**. The last 6 ships will be the end of this buy, yes, sir, to give us a total force of 18 Surtass ships, Surtass being the name of the acoustic array.



Salvage ships. This is the fourth of a class of five ships. These are required to replace aging ARS-38 class ships. We have looked at commercial substitutes for these ships and none are available.

Mr. **Bennett**. What do they do?

Admiral **Walters**. These are salvage ships. They are used for salvage work which the Navy has the Government responsibility for.

SALVAGE SHIP---ARS

[Dollars in millions]

	Fiscal year—	
	1982	1983
Number of ships	2	1
Cost	$134.2	$74.0
Less advance procurement from prior years		
Plus advance procurement for future years		$10.0
Net funding requirement	$134.2	$84.0

Mr. **Bennett**. All right.

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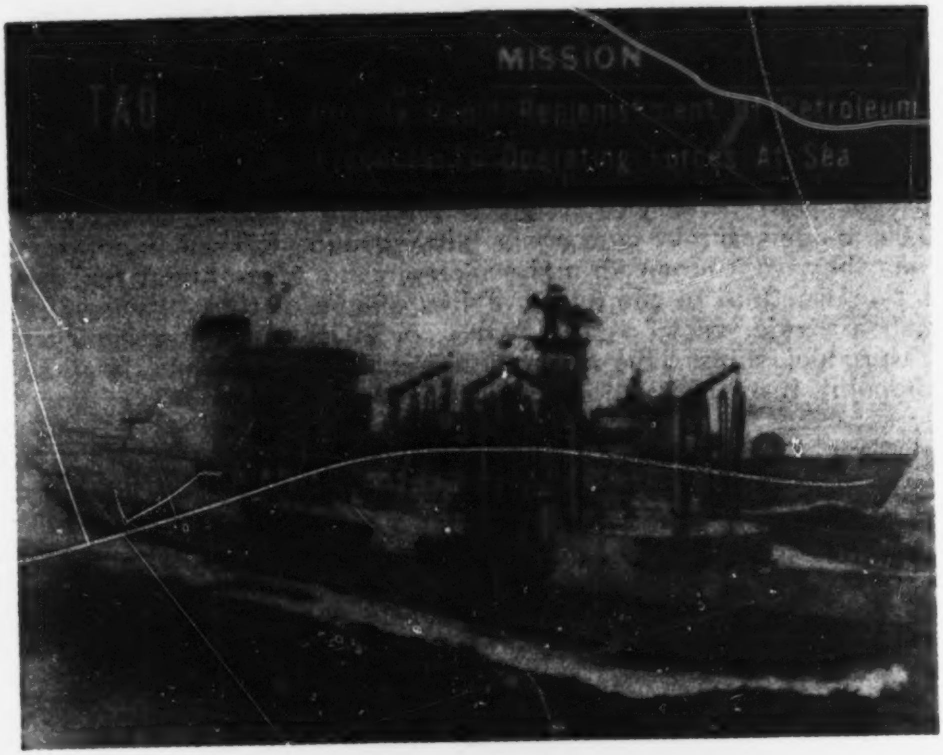

Admiral **Walters**. Fleet oiler. Here is the example of the "T" I was talking about. We have just completed building five military oilers which are called AO's. These are essentially the same thing except they have the habitability standards to accommodate civilian crews, and will be manned by the Military Sealift Command.

This is a new design ship, the first of which was in last year's budget. We are looking at the first five of these ships to be part of a multiyear procurement. These ships are being built to the maximum amount of commercial standards to save costs. Therefore, we think they make an ideal multiyear type building program, because all in all, we are going to be building somewhere in the neighborhood of 19 to 21 of these ships over the next several years. We think there are significant savings if we go to multiyear.

FLEET OILER—TAO

[Dollars in millions]

	Fiscal year—	
	1982	1983
Number of ships	1	1
Cost	[1] $257.1	$210.2
Less advance procurement from prior years		
Plus advance procurement for future years		$109.8
Net funding requirement	$257.1	$320.0

[1] Includes $58.0 million on fiscal year 1982 supplemental.

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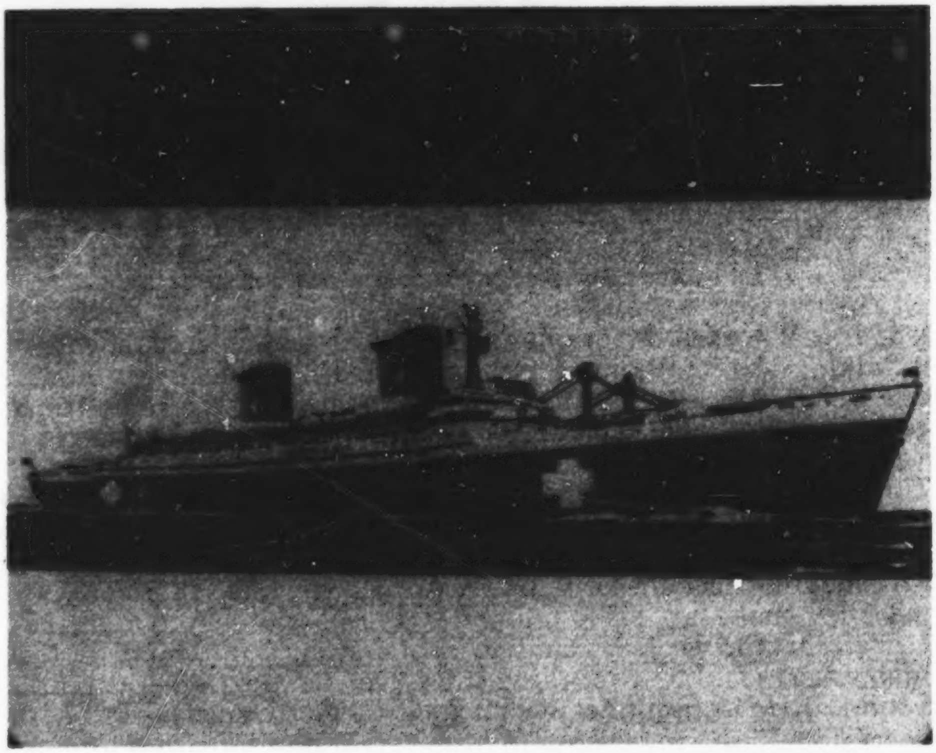
With the ship in 1983, we expect to award a contract that would include the first two with the option for the next three. These ships are needed to replace overage oilers. Of the 16 oilers we have, about half of them now are over 25 years, and the other half are over 35 years. We desperately need not only more oilers, but some to replace the old ones.

This is a battle force capable oiler from the standpoint that it has the speed to service a battle force. It has the capacity of 180,000 barrels to take care of the battle group POL replenishment. It has the rigs, the speed, and seakeeping to be a partial replacement in wartime in the event of loss of one of the station ships which are referred to as the AOE's, or AOR's, which are bigger multiproduct ships. This oiler could replace them from the POL standpoint. It is a very important program to us in the Navy.



The next is the hospital ship. I think you were made aware last year, if not in 1981 budget discussions, of our critical deficiency in the afloat care of battle casualties. We have not had a hospital ship in service since the Vietnamese era. There have been a lot of discussions on how to acquire this capability. We are now examining a variety of alternatives which will provide us with what we think we need; that is, 2,000 beds and 24 operating rooms. It doesn't necessarily mean one ship. It could be two ships or more.

Mr. **Bennett**. What hospital ships do you have now? Is *Sanctuary* still in operation?

Admiral **Walters**. That is the only one we have. It is laid up. It is the only one we have.

Mr. **Bennett**. Is there something wrong with it?

Admiral **Walters**. Slightly. It was converted to be a station ship in Greece during the time that we were homeporting ships overseas, and some of the hospital facilities have been taken out for other functions to support the naval activity in Greece. It is much smaller, of course, in the neighborhood of 250 beds, and very slow. One of the problems we had in looking at the supporting RDJTF-type operations, for example, is that a 12-knot ship takes a long, long time to get anywhere.

Mr. **Bennett**. Staff has a question on this.

Mr. **Kriser**. Thank you, Mr. Chairman.

The picture that you had of the hospital ship misleads me a little bit as to what I thought the intentions were. Would you describe what kind of ships you are looking at, and give the chairman some more information as to what you propose to do with those ships?

Admiral **Walters**. Yes, I am sorry. I think that is a representation of the SS *United States*. We looked at that ship very carefully because there was a lot of interest in it by Dr. Moxley. We determined that——

Mr. **Bennett**. You are not going to have that one?

Admiral **Walters**. No, sir.

Mr. **Bennett**. Do you have a picture of the one you are going to have?

Admiral **Walters**. No, sir. We don't know what it is going to be. We want a smaller ship than SS *United States*.

Mr. **Bennett**. About a third the size of that, right?

Admiral **Walters**. A third to a half the size, yes, sir—in terms of hospital capability. If you look at the medical problem we have with handling battle casualties, you are looking at a whole range of facilities that the Medical Corps calls a continuum of care. It starts with the corpsmen in the combat unit. We have requested fleet hospitals in another budget activity. They are a combination of tents and modular units.

Mr. **Bennett**. How many hospital ships did you have in World War II?

Admiral **Walters**. I would have to provide that for the record, but we had several of them.

[The following information was received for the record:]

HOSPITAL SHIPS

In World War II, the Navy operated 15 hospital ships and the Army operated 24.

Mr. **Bennett**. Are you going to get more or less now?

Admiral **Walters**. Less. We had two in Vietnam that were on station all the time. We are looking probably at two to answer our requirements for the present. I am not saying that is enough, but that is what we are looking at.

Mr. **Bennett**. I just wonder why you cannot do it on land?

Admiral **Walters**. That is why I was going to explain the continuum of care. You process these people from the battlefront corpsmen through our fleet hospitals. Then when they become full, they go to the hospital ships, and then from the hospital ships they go to the continental U.S. hospitals.

Mr. BENNETT. You mean what you do with these people is evacuate them from European land hospitals to the ship and then this is a transport proposition to bring them back to the United States?

Admiral WALTERS. No, sir.

In NATO, quite honestly, I would not foresee hospital ships to have anywhere near the importance in the European campaign, for example, because there you have host nation support. Where we really need the hospital ships are in those areas of the world in which there is little or no host nation support. In Southwest Asia there isn't any of that kind of support. Then you have to have them offshore. As in Vietnam, there wasn't anything nearby with which we could handle our casualties. So that is when you need the hospital ships.

Mr. BENNETT. It just looks like a possible place you could save money. You cannot use the ships you had in Vietnam?

Admiral WALTERS. Last year we proposed bringing the *Sanctuary* out. The major objection to *Sanctuary* from the standpoint of capability is it doesn't have the number of beds or the modernity of medical facilities. The modernity of the facility is a factor, Mr. Chairman. There have been a lot of changes in the way we medically handle the patients.

HOSPITAL SHIP TAH

[Dollars in millions]

	Fiscal year—	
	1982	1983
Number of ships	0	1
Cost		$300.0
Less advance procurement from prior years		
Plus advance procurement for future years		
Net funding requirement		$300.0

Mr. BENNETT. Could you give us assurances we are not buying something we could postpone? You got through a war, the Vietnam war. You had hospital ships then. We are going to have a great attack on the defense budget. I want to be sure these are things that are really needed. You just got through saying you don't need them in Europe. I am thinking probably about Europe rather than Southeast Asia.

Admiral WALTERS. We have a Rapid Deployment Force, for example, which involves marines. We have an amphibious force which involves marines. There is definitely a missing link in our ability to care for battle casualties. CNO last year and the year before was very concerned about this, and said that we had to work on this problem.

Now, we haven't had any hospital ships but if you are going to send a marine into battle, he likes to understand there will be something there that takes care of him when he gets shot or gets hurt.

Mr. BENNETT. How many hospital ships are you going to have?

Admiral WALTERS. The most we are looking at right now are two.

Mr. BENNETT. What happened to the ones you had in Vietnam?

Admiral **Walters**. People think they are not effective enough. We only have one left—*Sanctuary*, and they don't think it is effective enough.

Mr. **Bennett**. What happened to the others?

Admiral **Walters**. I guess some of them have been scrapped. I think all of them have been scrapped.

Mr. **Bennett**. The only hospital ship we now have is the *Sanctuary*?

Admiral **Walters**. Yes, in the Reserve Fleet.

Mr. **Bennett**. All right. Go ahead.

Admiral **Walters**. Yes sir.

Mr. **Kriser**. Admiral, I don't think you fully answered my question. I want the chairman to know what it is you are looking at. You have not really explained that.

Admiral **Walters**. What we are looking at from the standpoint of ships, I will let Admiral Fowler address because he is doing it.

Admiral **Fowler**. We went out last year with a circular of requirements and requested proposals from industry which we received on February 1 this year. We asked they provide proposals that would give us 2,000 beds of hospital. It could be in one or more ships. It could be a new ship, conversion of existing ship, what have you.

We have a number of very good proposals from industry. We expect that we will have those completely evaluated and winnow those down to about three in May, and then go back to those companies who submitted those three and ask them to refine those and get us to a position where we can price them and later in the year, make a decision as to what is the best of all the offers we have at the present time.

Mr. **Kriser**. I think it might be helpful if you tell us the kinds of ships you are looking at and the concepts that you are getting.

Admiral **Fowler**. I think it would be inappropriate for me to put on the record what we have in the proposals, Mr. Kriser. We are in the process of evaluating those proposals right now.

Mr. **Kriser**. All right.

Admiral **Fowler**. We have some very good proposals. One of the things that makes the evaluation very difficult is we have such a variety of things to look at.

Mr. **Bennett**. You are asking for funding even though you have not decided?

Admiral **Fowler**. Yes, sir.

Mr. **Bennett**. I understand.

OK, next one.

Admirl **Walters**. Next is the TAKRX, commonly known as the SL-7's. As you know, six were purchased in fiscal year 1981 with 1981 funds, the last two are being purchased in 1982. Four are to be converted to roll-on/roll-off capability in 1982 and this is the funding for the final four conversions in fiscal year 1983. There has been an issue regarding how these are to be converted. As it stands now, the fiscal year 1982 funding supports the military conversion of four and what has been referred to as the minimod of the other four. I think it only fair to state that in reviewing all of these modification options, that the only one that meets the Army's re-

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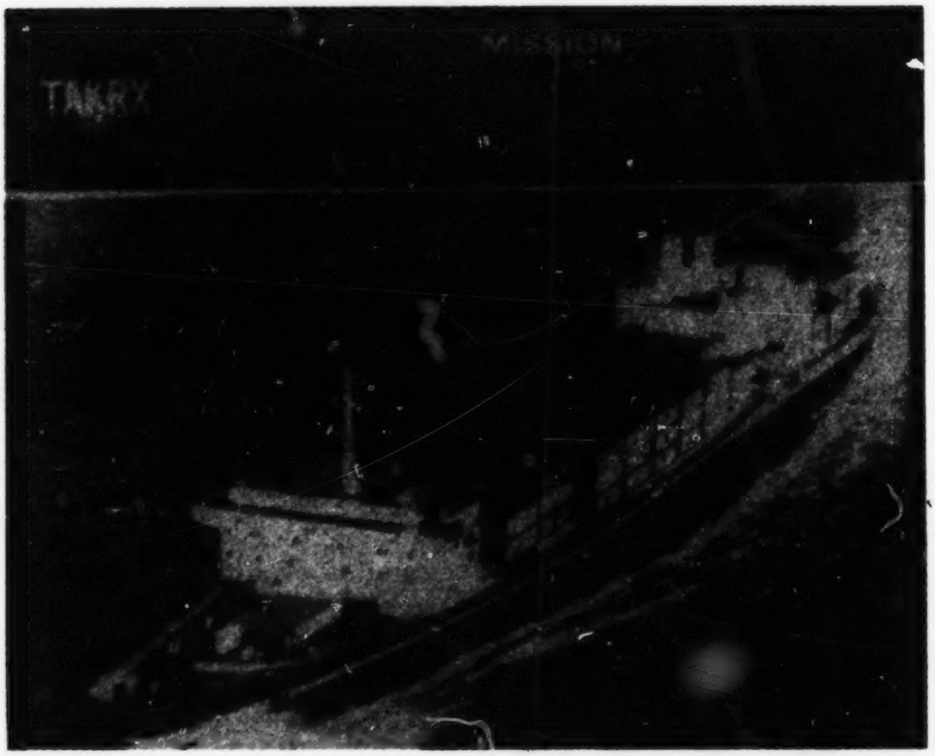
quirements, and they are essentially the users, plus possible the Marine Corps, is the full R./R. conversion.

FAST LOGISTICS SHIP TAKRX

[Dollars in millions]

	Fiscal year—	
	1982	1983
Nubmer of ships	4	4
Cost	$410.0	$322.6
Less advance procurement from prior years		
Plus advance procurement for future years		
Net funding requirement	$410.0	$322.6

In this case we are trying to satisfy that kind of a requirement. Looking at the craft line, we have several types of craft. The most important of these, in terms of the largest dollar value and utility, is the landing craft air cushion.



CRAFT

	Quantity	Millions
Landing craft air cushion (LCAC)	3	$65.4
Landing craft (medium) (LCM)	20	17.7
Harbor tug (YTB)	6	31.7

CRAFT—Continued

	Quantity	Millions
Training craft (YP)	6	28.7
Cargo barge (YC)	6	3.3
Floating crane (YD)	3	15.3
Total		162.1

Mr. BENNETT. What are they going to do?

Admiral WALTERS. These craft are to move Marine equipment ashore. Most of the personnel go in helicopters, then you have to move their support equipment. The LCAC can take tanks, trucks, ammo, supplies, and all required equipment. This gives us a capability to standoff from the beach, make a fast approach to the beach and to have access to nearly 70 percent of the beach area over the world, yet avoids the buildup on the beach because these craft can go over the beach and discharge their cargo on land. You get away from that massive buildup of material that you saw in World War II. Now we can get it inland with the same vehicle which brings it ashore.

Mr. BENNETT. Next one.

OTHER SHIPBUILDING

[In millions of dollars]

	Fiscal year—	
	1982	1983
Outfitting	73.0	136.4
Post delivery	117.2	168.3
Cost growth	290.4	314.2
Escalation	224.0	209.2
Manufacturing technology		25.0

Admiral WALTERS. On others, we have the normal estimate for outfitting, postdelivery, cost growth and escalation. We discussed the ship design line and manufacturing technology earlier. So, the balance of what is left includes outfitting, postdelivery, cost growth and escalation.

Mr. BENNETT. I think this would be an appropriate time, we have included your original presentation; right?

Admiral WALTERS. Yes, sir.

[The following questions were submitted to the witness to be answered for the record:]

MK 92 FIRE CONTROL SYSTEM

Chairman BENNETT. What is the configuration and capability of the MK 92 fire control system as plannned to be installed in the ships requested in the fiscal year 1983 budget? Please relate the capabilities in a clear and jamming environment and in the presence of weather.

Admiral WALTERS. The MK 92 fire control system as installed in the ships requested in the fiscal year 1983 budget will be modified with Phase I of the MK 92 Upgrade Program. No performance improvement will be seen in a clear environment until the average transmitter power is increased in Phase II of the Upgrade Program. Existing performance [deleted] in search and [deleted] in track will be maintained in the clear. In the low to moderate threat jamming environment, performance will be improved 15 percent in the search mode. A [deleted] detection and [deleted] track capability will be experienced. The most significant improvement will be seen in the presence of weather. Fiscal year 1983 ships will see 100 percent improvement over existing performance. This will result in a [deleted] search and 45 KYD track capability. Soon after commissioning of the fiscal year 1983 ships, the Phase II Upgrade modifications will be installed during post shakedown availability and will provide 30 percent to 50 percent improvement in all environments over the Phase I Upgrade System. The Phase II program consists primarily of a coherent receiver/transmitter and digital signal processor which will be backfitted into all MK 92 Fire Control Systems commencing fiscal year 1987.

LIGHTWEIGHT TORPEDO

Chairman Bennett. Is the MK-46 torpedo adequate in light of the significant advances in the performance of Soviet submarines?

Admiral Walters. [Deleted].

Chairman Bennett. Wouldn't the British developed Stingray torpedo provide a significant increase in capability that would be available substantially before the new Advanced Lightweight Torpedo (ALWT)?

Admiral Walters. [Deleted].

CRUISER/BATTLESHIP REACTIVATION

Chairman Bennett. The GAO has recommended that the Navy assess the alternative of reactivating cruisers, perhaps in place of battleships. Why has the Navy recommended reactivation of battleships, but not cruisers?

Admiral Walters. There are many reasons why the *Iowa*-class battleships are preferable to the *Des Moines* class cruisers for modernization. These include their size which offers both flexibility and growth potential, superior conventional gun systems, greater endurance, and unsurpassed survivability features. In addition to these obvious advantages, the fact that there are four battleships and only two cruisers should not be overlooked. To realize the full benefits of this reactivation program and to accommodate a reasonable employment schedule, reactivation of four battleships would provide the greatest degree of operational flexibility.

Nevertheless, the Navy is conducting a survey of the two cruisers to determine reactivation and modernization feasibility and to estimate the cost of such an undertaking. The results of this survey are expected in August 1982, and will be forwarded to the Committee at that time together with our conclusions on the battleship and cruiser reactivations.

WRITTEN STATEMENT OF VICE ADM. ROBERT L. WALTERS

Mr. Chairman and members of the Committee, I am Vice Admiral Robert L. Walters, USN, the Deputy Chief of Naval Operations for Surface Warfare and the Shipbuilding and Conversion, Navy (SCN) Appropriation Sponsor.

I am privileged today to have the opportunity to present to you the Navy's Shipbuilding and Conversion budget request for fiscal year 1983 and to explain our requirements for this year as well as the remainder of the fiscal year 1983-1987 five year shipbuilding plan.

This is a watershed year for the Navy, because the results of your deliberations regarding this request will set the Navy's course for years to come. The plan for 1983 which I present to you today has been carefully considered by the Department of the Navy, the Department of Defense and other elements of the Administration. It is by far the largest peacetime shipbuilding request in the history of our Nation and it will be necessary to continue sizeable shipbuilding programs during the next five years if we are serious about building a Navy sufficient to regain maritime superiority. We recognize that our shipbuilding needs will involve significant annual investment and a prolonged commitment.

There is general concurrence in the need for increased naval force levels, but there are questions regarding the degree and rate of increase and the affordability of the increase. There is also some debate on the type of ships which should be built and the capabilities which they should possess. During last year's hearings, Chairman Bennett surmised that "twelve billion canoes would not do us much good." In fact, the technological requirements to combat the known and projected threats are the primary drivers of this building program. We are forced to straddle an uncomfortable fence with large numbers of ships on one side and adequate but expensive capabilities on the other. To build ships which are unable to fight and win would lead to false security and even worse—the potential loss of the freedom of the seas which is absolutely vital to our national survival and the continuing peace and order of the world.

The Congress of the United States recognized these requirements in approving a Sense of the Congress resolution which states that "a larger and stronger American Navy is needed as an essential ingredient of our armed forces, in order to fulfill its basic mission." The resolution reaffirmed the goal of a six hundred ship Navy by the end of the century, at the latest. The missions enumerated in that resolution constitute the raison d'etre of the U.S. Navy. In order to successfully accomplish those missions, our Navy must possess certain characteristics. Foremost of these characteristics are flexibility, offensive power and endurance.

Let's look at flexibility first. Our strategic and economic interests are global, but the maritime threat we face is also worldwide. Thus we must have a Navy capable both of reaching out over a vast area and supporting a variety of national interests against potential threats. To concentrate on any one area such as the Indian Ocean, or on one mission such as convoy escort to the exclusion of other areas and missions, would allow potential adversaries too much freedom of action, and would be a serious error.

The second required characteristic is offensive power. Unlike land warfare, occupation of space at sea provides only transient benefits. The vast size of the area involved and the inherent mobility of maritime forces allows static positions to be bypassed or avoided. Thus we are faced with two choices. We must either build enough ships to physically occupy all important maritime areas at once—a fiscal and physical impossibility—or we must build ships able to destroy enemy forces which may challenge our control of vital sea areas. I can think of no way of improving upon John Paul Jones' dictum that our ships must be able to "go in harm's way" if we are to defeat an enemy at sea.

The third required characteristic is endurance. This is achieved by a capability to replenish the fuel, ammunition and stores required by our combat ships without reliance on shore bases which are subject to enemy action. To achieve and maintain this capability the five year plan includes oilers, ammunition ships and repair ships which are required to replace ships at or near the end of their effective service lives.

A major new thrust of the Navy's program is to improve the distribution of offensive power by providing more ships with offensive punch, to give increased emphasis to sealift and to replace overage mobile logistic support forces. It is vital that we improve our ability to engage and destroy enemy forces from a multitude of platforms in any ocean area, and mandatory that our shipbuilding and modernization programs are structured accordingly.

All of this boils down to the fact that we need a balanced force posture—a force posture capable of winning against a formidable opponent who will probably choose the time and place for the initiation of combat. The challenges of war at sea will be extremely demanding, and we must continue to preserve the proper mix of ship and submarine numbers and capabilities to insure we maintain the requisite sea and air power to win. The hard facts are that we don't have enough battle force capable ships to cover adequately either peacetime or wartime requirements. Hard fiscal choices between numbers and quality continue to make decisions difficult, but we will propose no ships in our SCN program which we feel are deficient in combat capability.

FORCE PLANNING

We prefer to define the "600-ship Navy" as those forces required to achieve 15 Battle Groups; 100 attack submarines; amphibious lift for a MAF and a MAB: and the necessary support and logistic forces to sustain the fleet which would result.

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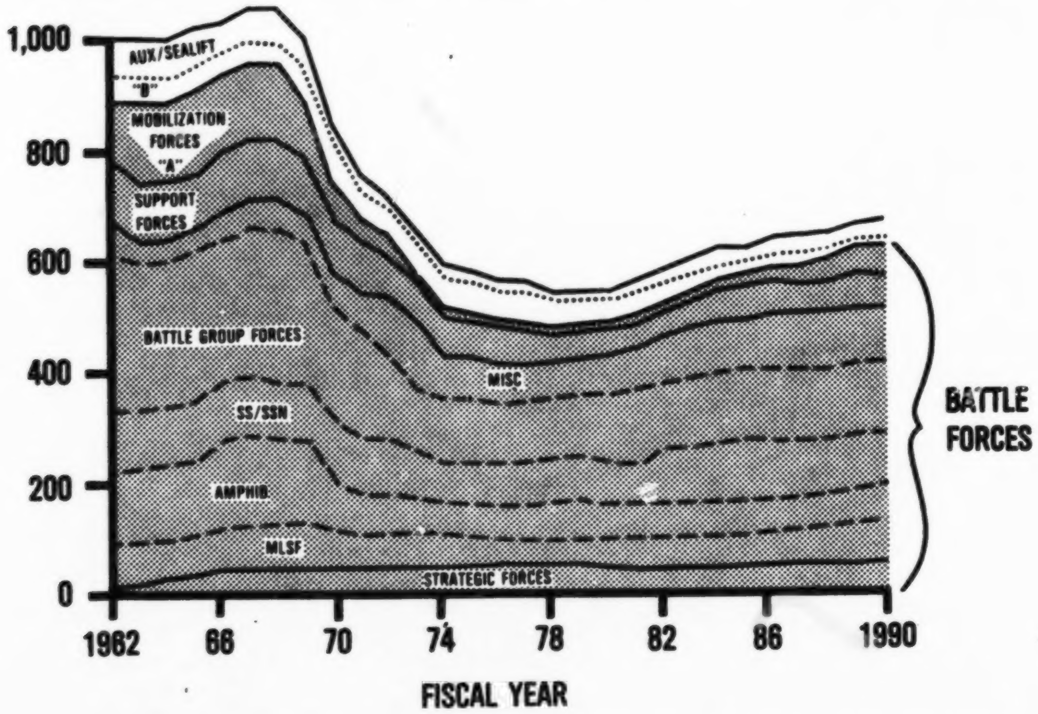
U.S. NAVY SHIP FORCE LEVELS



This first viewgraph depicts the overall size of the Navy for the past twenty years. You note the slight build up during the Vietnam era and the precipitous drop in ships which occurred thereafter. This decline has continued up to the recent past but is now demonstrating an upward trend. The increasing force level depicted as commencing in the early 1980s is a reflection of the current five year plan which as shown, projects achievement of the 600 ship battle force goal by 1989.

In outlining our minimum ship requirements, I will deal with a number of separate categories: strategic and attack submarine forces, carrier forces, surface combatant forces (cruisers, destroyers, frigates), amphibious forces, mobile logistic support forces (MLSF), and mine warfare forces.

STRATEGIC SUBMARINE FORCES

Dealing first with strategic submarines (SSBN), the Navy embarked on the Trident shipbuilding program, with authorization for the lead ship in 1974, designed to replace the aging 41-ship Polaris/Poseidon force. Two of the oldest Polaris submarines have been inactivated. The remaining eight have been removed from the strategic nuclear force and are being converted to SSNs.

The U.S.S. *Ohio,* the first Trident submarine was delivered by Electric Boat Company and commissioned last year. To date, the ship has exceeded all design requirements and is in the process of completing a highly successful series of trials. We plan for *Ohio* to commence her first deterrent patrol later this year. Even though we are proceeding toward a smaller number of SSBNs, force capability will increase significantly as a result of a much more capable Trident submarine, equipped with 24 missile tubes vice 16, and which carries the more capable Trident I missile. Force capability is also being increased by backfit of Trident I missiles on 12 Poseidon submarines and upgrading warheads on some Poseidon missiles. The ultimate Trident force level remains under continuing review and will be influenced by several interrelated factors. Primary among these is the requirement to replace our present SSBN force as a result of age and technological obsolescence, possible changes in the role SLBMs will play in the future United States mix of strategic forces and the

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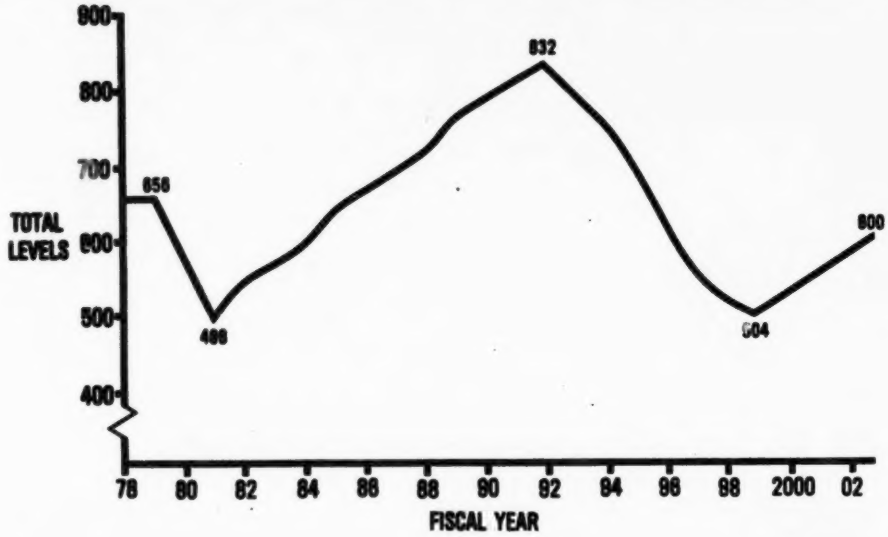
political considerations related to national strategy and strategic arms limitation agreements with the Soviet Union.

SLBM LAUNCHER LEVELS



SSBN force levels are best displayed in terms of missile launchers as shown in this viewgraph. Starting with 656 launchers at the end of fiscal year 1979, there are now approximately 500 launch tubes in Polaris and Poseidon SSBNs. Starting in fiscal year 1982, based on the Five-Year Defense Program, SLBM tubes will increase with Trident deliveries until Poseidon submarines are retired. With the retirement of the Poseidon submarines at their presently planned extended service life of 30 years, available launch tubes will again decrease unless planned building rates for Trident SSBNs are altered. If we continue under the current plan to build two ships in fiscal year 1983 and one ship a year thereafter, our launch tube profile will follow the curve as depicted in the viewgraph.

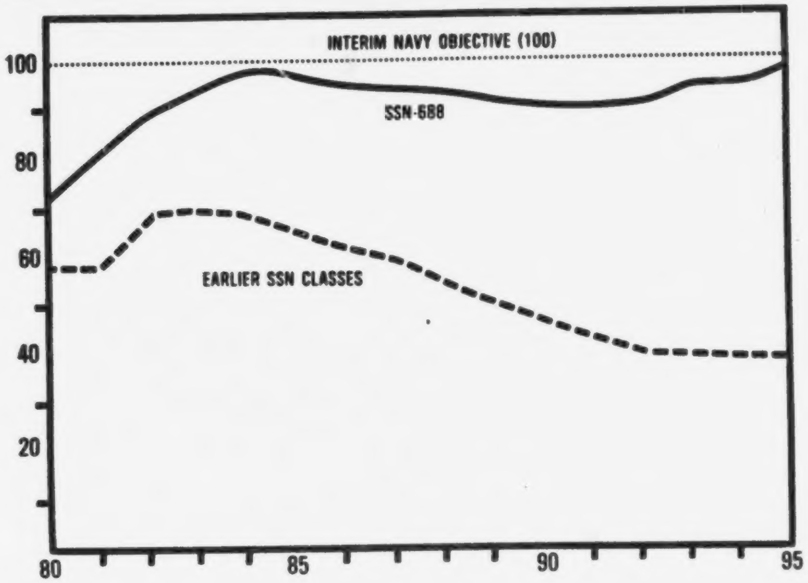
Numbers of launch tubes are not the only factor of significance. SLBM force capability is also largely influenced by the type of missile carried. Thus, as we proceed with the development of the Trident II (D-5) missile, we will realize a vast improvement in capability with no increase in launch tubes.

ATTACK SUBMARINE FORCES

The ability of our multi-mission, nuclear powered, attack submarines to operate covertly and with high survivability makes them extremely valuable for forward area operations, particularly in waters which would be untenable for other forces. Given the SSN's staying power, quietness, superior sensors, mobility and significant kill potential, these submarines also are a primary ASW weapons system in open ocean warfare. Whether operating in the relatively new role of direct support for the carrier battle groups or in more traditional, independent operations in forward areas or in choke point barriers, the SSNs have unique capabilities. An evolving mission for our SSNs is strike warfare using the land attack version of the Tomahawk cruise missile.

Because of the increasing capabilities and size of the Soviet Naval threat, it is essential that we maintain an adequate SSN force level. Since 1973, the minimum force level goal has been 90 SSNs. The JCS have consistently identified greater requirements; however, within former force level and fiscal constraints 90 was consistent with our balanced force requirements. This minimum force of 90 SSNs has been critically re-evaluated relative to Soviet submarine developments, new SSN missions, and the need to increase Navy force levels to maintain maritime superiority. Consistent with a growth to 15 battle groups, at least 100 nuclear attack submarines is our increased objective. These additional SSNs will improve our capability to counter an increasingly formidable Soviet submarine fleet. These increased numbers also will be needed to satisfy an increased demand for SSN strike warfare tasking. It must be recognized that the 100 SSN force level is still an austere level, and current building rates will not sustain this objective. Regardless of force size, it is imperative that we maintain qualitative superiority in this important program. The viewgraph, which projects the five year shipbuilding plan, shows that we approach the required total in 1984 and gradually fall away until the early 1990's when we begin to reap the dividends of a sustained four SSNs per year building program.

NUCLEAR ATTACK SUBMARINE (SSN) FORCE LEVELS



AIRCRAFT CARRIER FORCE LEVELS

At the present time, the U.S. Navy has a total of thirteen aircraft carriers in commission, one of which is in the SLEP program, for a total of twelve deployable units. This figure will increase to thirteen when the *Vinson* (CVN-70) is commissioned later this year and is projected to increase to fourteen when CVN-71 becomes deployable in 1987, dropping to thirteen between 1990 and the end of the century. These projections are predicated on extending the service life of the eight conventional large deck carriers and CVN-65 through the SLEP program and operating *Coral Sea* and *Midway* until the end of this decade. The projection indicates that the CVN-72 and CVN-73, which are requested in the current budget, will deliver in fiscal year 1989 and fiscal year 1991 respectively. Navy will continue to require the construction of large deck carriers beyond CVN-72 and 73 for the remainder of this century, first to provide the fourteenth and fifteenth deployable carriers by the mid-1990s, and later to provide replacements for the conventional large deck carriers as they begin to reach their end of 45-year service life beginning in the late 1990s.

While no funds have been requested in this budget for the reactivation of any 27C class carrier, such reactivations remain the most expedient method to achieve the desired Carrier Force Levels.

SURFACE COMBATANT FORCES

Due to the multiple types of warfare capabilities required within a broad mix of surface combatants, sizing of each ship class to produce the minimum required forces is a difficult process.

Battleships augment the offensive power of the carrier battle groups. Teamed together with cruisers and destroyers they are the predominant striking force of surface action groups. They also operate in offensive support of amphibious operations. Cruisers and destroyers operate with the carriers in battle groups, team together as surface action groups, and protect amphibious task forces and underway replenishment groups. They are designed to function in high threat areas and possess requisite weapon systems, command and control facilities, engineering redundancy and endurance to conduct sustained combat operations at sea. Frigates, on the other hand, are designed as open ocean escorts. They are smaller, less capable, and less costly warships, which are intended to operate in lower threat areas. The primary mission of a frigate is anti-submarine warfare, whereas cruisers and most destroyers are multi-purpose ships with capabilities in several warfare areas.

Our force requirements were developed to maintain a margin of ASW superiority, enhance AAW capability and to augment offensive power and strategic flexibility. In so doing, we have placed an emphasis on total force capability, vice numbers of ships, in developing a realistically attainable and capable minimum force level objective.

Considering initially the carrier battle groups, force sizing is based on the projected employment of that group. Most current force level derivations assume two carriers per battle group in the higher threat environment. When two carriers operate as units of a single battle group in close proximity, three Aegis ships are considered the minimum necessary for AAW defense. When operating as a battle group organized around a single carrier, two Aegis cruisers are required. In addition to carriers and Aegis cruisers, we need a mix of other cruisers and guided missile destroyers plus surface ASW forces to fulfill battle group requirements. This results in battle group requirements for surface combatants as shown on the viewgraph.

SURFACE COMBATANT FORCE LEVEL NAVY OBJECTIVE (238)

	CGN	CG47	DDG51	DDG-993	DD-963	FF/FFG
1-1 CV BATTLE GROUP						
7-2 CV BATTLE GROUPS						
2/3 CG-47		23				
2/5 DDG51/CGN	6		31			
2/4 DD-963					30	
4 BB SAGS						
1 CG-47		4				
3 DDG51			12			
AMPHIBIOUS FORCE						
10 DDG51			10			
4 DDG-993				4		
8 FFG/FF						8
CONVOYS						
1 DD-963					7	
9 FFG/FF						63
URGS						
1 DDG 51			10			
3 FFG/FF						30
TOTAL	6	27	63	4	37	101
					137	101

The surface action group, or SAG, can operate in conjunction with or independent from carrier battle groups. In lower threat areas, a surface action group can on occasion ease the heavy commitments of the CVBGs. SAGs have been utilized in the Middle East, Caribbean and Indian Ocean regions whenever this level of force is deemed the appropriate level of response. SAG utilization in the future will be enhanced by the addition of cruise missiles, which will permit real distribution of offensive power, and Aegis which will provide increased AAW capability when the full range of airpower is not available. The reactivation of the battleships adds a new dimension of visible combat power, survivability, and flexibility to these groups.

Sizing of amphibious forces is a function of the Marine Amphibious Force Planning Goal. A revised goal of lift sufficient for an independent MAB in one ocean and a MAF in another has been established. The minimum number of surface combatants needed to support these forces is 14 cruisers and destroyers and eight frigates.

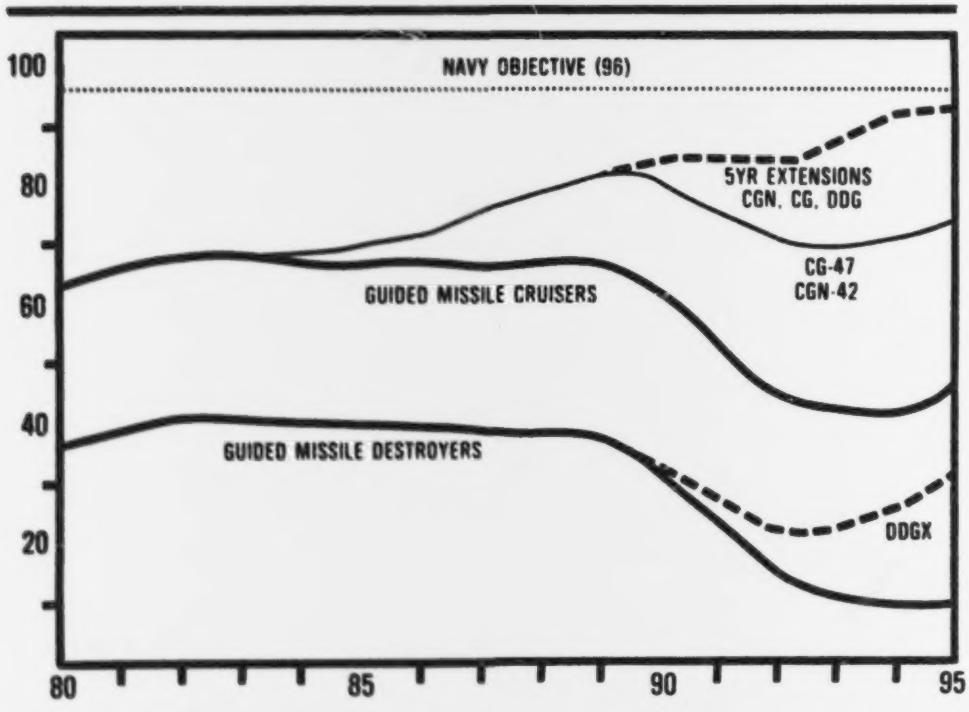
Force levels required to protect military shipping are extremely sensitive to the proximity of enemy force concentration, to the number of convoys to be protected and to the contribution of allies. Allies could be expected to provide escorts for some convoys thereby reducing U.S. requirements. Based on the expected scope of convoy requirements and a reasonable assumption of allied contribution, we have assumed the U.S. Navy must be able to provide about 70 surface combatants for military convoy escort requirements.

Mobile logistics are absolutely vital to the Navy's ability to conduct prompt and sustained combat operations. Underway replenishment ship operations span the spectrum of threat exposure level and require a significant measure of protection. Three to five surface combatants are required in support of each underway replenishment group. Estimates of the number of underway replenishment groups vary depending on battle group employment and forward base availability assumptions. Minimum force objective for ships in support of this task is expected to be about 40 surface combatants.

The total surface combatant force level goal based on this "Top Down" assessment is 238 ships as summarized in the viewgraph. The 238 ship surface combatant force outlined herein is considered the minimum acceptable force of the correct mix.

Within the surface combatant mix of cruisers, guided missile destroyers, destroyers and frigates, the most serious problem facing the Navy is the replacement of those guided missile ships which are scheduled to retire by the early 1990's. Adding to the urgency for construction of the DDGX is the fact that the missile fire control systems of current fleet ships were designed in the 1950's and 1960's to engage and destroy manned aircraft. Their capability is limited against the sophisticated array of anti-ship missiles which potential adversaries possess in great numbers. Only the AEGIS technology and hardware offers the Navy the future ability to successfully defend ships against these missiles, which can be launched from aircraft, submarines or other surface ships.

COMPOSITE GUIDED MISSILE CRUISERS AND DESTROYERS



This viewgraph shows the guided missile ships currently in commission and the gradual increase in these assets as CG-47s, CG-42s and DDGXs are delivered in numbers. Please note some service life extensions will be required to maintain this real growth past 1990. I cannot overstate the requirement for AEGIS equipped ships and, most particularly, the urgent need to move rapidly into a large construction program for the DDGX class.

LOGISTIC SUPPORT FORCES

As I indicated in the initial section of the statement, endurance is one of the primary characteristics we seek in our Navy to ensure control of the seas. The administration's five year plan includes several classes of support ships which are necessary, if we are to be able to continue to support our battle forces at sea.

AOE/AOR

These multi-product ships are integral elements of the battle groups and remain with them in a "station ship" role. Currently there are only eleven in the inventory. The five year plan includes an additional four to meet the 15 Battle Group requirement.

AO/TAO

Due to the age of the oiler force, the importance of a buildup in the fleet oiler inventory cannot be over emphasized. We are completing the acquisition of the five ships of the AO-177 class and last year received appropriations for the first of the TAO-187 class ships. There are eighteen more TAOs in the five year plan moving toward a force level of twenty-four oilers. This is considered adequate for the fourteen carrier battle group sizing which will predominate over the foreseeable future. In the outyears we will request authorization for five additional ships to achieve the minimum Navy objective of 29 to support 15 Battle Groups.

AMMUNITION SHIPS (AE/TAE)

The force level objective for shuttle AE/TAEs is 16, predicated on optimistic forward basing; however, AE requirements are less sensitive to the number of battle group and basing assumptions than are the oilers, but are highly sensitive to the level of combat effort. There are currently 13 AEs; one is needed to fill the current AOE station ship shortfall, so there is inadequate capacity here. Force decline begins in the early nineties with retirement of the AE-21 and 23 classes, and then levels out until after the turn of the century. The four AEs in this five year plan initiate a program to permit us to approach our objective. As the building program is continued beyond the FYDP years, it will provide replacements for the AE-21 and 23 classes. The AEs in this plan will be modified repeats of the AE-26 class.

COMBAT STORES SHIP

From earlier studies which used optimistic basing assumptions, the AFS force level was established at seven to meet a 12 CVBG wartime commitment. Current Indian Ocean operations have proven that seven AFSs are not sufficient even to meet peacetime three ocean requirements. Therefore, the requirement has now been established at nine AFS/TAFS. AFS assets are divided with four AFS/TAFS being assigned to the Atlantic Fleet and the remaining five AFS/TAFS in the Pacific. We have seven excellent *Mars*-class AFS which were commissioned in the 1960's. Congressional action in fiscal year 1982 permitted the purchase of two TAFS from the Royal Fleet Auxiliary to bring us up to objective. In addition, one older TAF shuttles from CONUS to provide resupply for Sixth Fleet units. When it retires, a commercial ship will probably have to be chartered. No further building program is anticipated in this category until the late 1980's when replacements for the *Mars* class will be required in order to be on line when they reach end of service life in the 1990's.

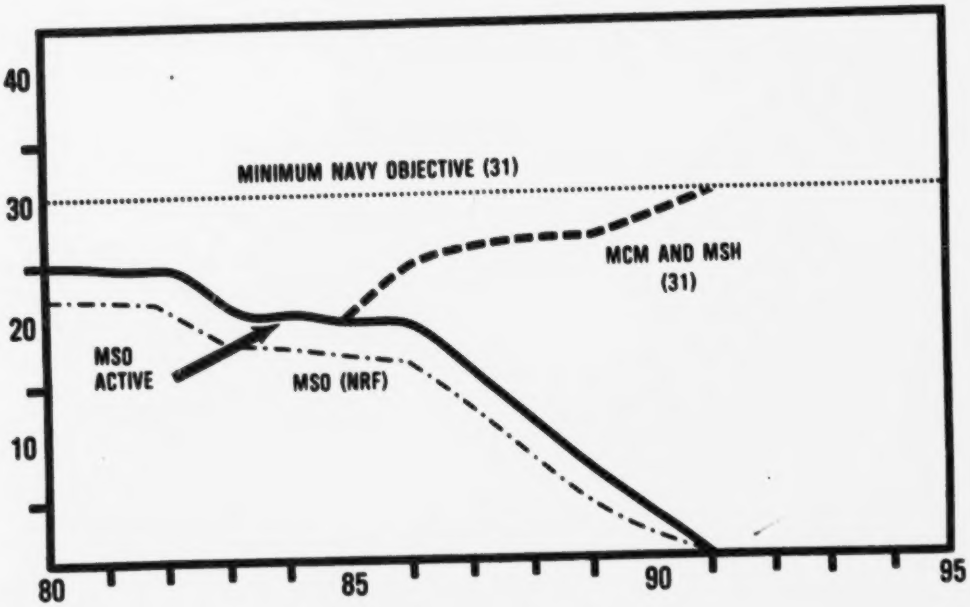
AMPHIBIOUS FORCES

Amphibious assault ships are uniquely designed to support forcible entry from the sea against defended positions ashore. Our current capability, considering ship nonavailability due to major maintenance (ROH), translates to an ability to lift the assault echelon of about one notional Marine Amphibious Force (MAF), with a current shortfall in helo spots and cargo space. The requirement is the simultaneous lift of the MAF plus a Marine Amphibious Brigade (MAB). At the same time our requirement is increasing, we are addressing pending block obsolesence of amphibious lift ships in the 1990s. A total of fifty-two of the present active and reserve inventory will be decommissioned by the end of the century. The magnitude of the building program required to even maintain present lift capability is large and when the increased lift is added, it becomes obvious that only consistent and long term commitment to the amphibious mission will permit us to achieve our goals. The picture is not all bleak. The LSD-41 program is well underway and proceeding on schedule. The Congress has directed the acceleration of the first LHD from fiscal year 1985 to fiscal year 1984 and planning for that construction program is proceeding smoothly. In addition, we are looking closely at Service Life Extension programs for several amphibious ship classes to permit earlier achievement of stated lift requirements. The Landing Craft Air Cushion (LCAC) program is underway with three in the fiscal year 1982 appropriation and three more in this request. The LCAC, in conjuction with LSD and LHD or existing well deck ships, greatly enhances the ability of the assault commander to land in undefended areas, since he is no longer restricted to beaches with specified conditions which are required for conventional landing craft.

MINE WARFARE FORCES

Mine Warfare poses a serious threat to the free movement of commerce and to the ability of peaceful naval forces to execute their assigned tasks. The Soviet Union is believed to possess large stocks of modern sophisticated mines which, if not safely cleared, could deny access to harbors, straits and large areas on the Continental approaches. For the past quarter century, the U.S. Navy has had to rely solely on a small group of ocean mine-sweepers, built in the mid to late 1950's. In the recent past, this force has been augmented by a mine sweeping helicopter capability. Currently there are twenty-five MSOs, three in the active forces and twenty-two in the Naval Reserve Force, and twenty-three MCM helicopters. As shown in the viewgraph these ships are rapidly approaching the end of effective service life and require replacement as soon as possible. Fortunately, Congress appropriated funds in fiscal year 1982 for the lead ship of a new class of Mine Countermeasures ship, the MCM. An acceptable risk force will require a total of fourteen. These ships will be augmented by a low mix minehunter, the MSH, which will be introduced in the fiscal year 1984 budget. Seventeen MSHs are planed for construction. The 31 mine countermeasures ships represent a bare minimum requirement and dictate sequential clearance of U.S. waters and heavy reliance on our allies to keep their own waters swept. We now consider that we are on the right course with the proper mix of ships and helicopters to meet our mine countermeasure requirements with acceptable risk.

MINE COUNTERMEASURES SHIPS



FISCAL YEAR 1983 SHIPBUILDING REQUEST

This Administration is firmly committed to regaining maritime superiority. Previous witnesses before this Committee, including the Secretary of Defense, the Secretary of the Navy, the Chief of Naval Operations and the Commandant of the Marine Corps have been consistent in their statements in support of significant increases in shipbuilding as a necessary ingredient to regaining naval superiority. A maritime strategy has historically been a national objective and only recently has our ability to execute such a strategy been questioned. Effective sea power means that we must maintain and deploy visible and credible forces on a global scale. It is our firm conviction that any war with the Soviet Union, regardless of perceived limitations to specific land areas, will immediately assume global proportions at sea. Therefore, it is imperative that the Navy be structured to win battles at sea against a formidable enemy. This implies commitment of forces which are both capable of defeating enemy forces in combat and sufficient in numbers to pursue a sequential strategy in several widely separated strategically vital ocean areas. My purpose is to translate these broad requirements into specific shipbuilding terms.

Fiscal year 1982 was a period of adjustment and there were many revisions to the original program before we finally submitted the fiscal year 1981 supplemental and the amended fiscal year 1982 budget. Regretfully, we were unable to provide an operative five year shipbuilding plan throughout that period. Having now had time to thoroughly examine naval requirements to support revised national goals and objectives, we are able to present a balanced five year SCN plan which fully supports the objective of regaining naval superiority. It is a balanced plan which includes building of all of the ship types needed for a structured and economic approach to acquiring those forces which will support the National Strategy. The plan provides for a measured increase in capability within our industrial capacity, it is structured to take advantage of multiyear procurement which will encourage private investment in capital improvements, permit stable employment levels and result in significant economies to the United States.

Amid charges that we can't afford a "600 ship Navy" we must clearly understand what this new commitment really means. Inherent in its embrace is the imperative that we overcome many years of underinvestment in shipbuilding—past decisions which have resulted in the erosion of our maritime strength to the point that we no longer enjoy clear maritime superiority as a world power. Clearly a "600 ship Navy" which includes 15 Battle Groups, an attack submarine force of 100, amphibious lift for the assault echelons of a MAF and a MAB, and numerous other ships needed to maintain and support these forces is achieveable. We are presenting such a plan as a part of the President's fiscal year 1983 budget submission. That such a shipbuilding plan requires increased investment is obvious, but it must be clearly understood that this plan has been accommodated within the fiscal allocation provided to the Department of the Navy by the Secretary of Defense. We have structured this five year plan within our fiscal limits while at the same time providing for increased readiness of forces in being and undertaking very significant upgrades in the nation's strategic capability through development of Trident II and vastly improved strategic communications.

The five year shipbuilding plan submitted with the fiscal year 1983 budget would provide 133 additional ships to our Navy. Add to this the 102 ships already authorized and appropriated in fiscal year 1982 and prior but which remain to be delivered and we have the opportunity and potential to add a total of 235 new ships to our Navy, starting this year and extending into the early 1990's. This ship construction comes at a time when our shipbuilding industry desperately needs work. Their capacity to build a "600 ship Navy" is not at issue. What is at stake, however, is the future of our shipbuilding industry. The previous decline in naval construction coupled with a drastic reduction in commercial ship construction has resulted in a precipitous decline in projected workload for most of the industry. The continued downturn in private commercial work leaves our nation's shipyards largely dependent upon naval ship construction to remain healthy or in some cases for fiscal survival. Increased naval ship construction will support healthy improvements in our shipyards and associated industries and, together with a multiplier effect several times the SCN dollar investment, will have positive effects on the nation's economy.

I have stressed the general stability of the five year plan, thus it is essential to explain the obvious peak in fiscal year 1983 which is due to the inclusion of two nuclear attack carriers and two Trident submarines. We have consistently emphasized the need to build one or two Trident submarines a year, and the loss of one in fiscal year 1982 was most disturbing. These submarines represent the most survivable element of our strategic triad. We cannot afford to lose the momentum of this critical strategic program. Our submarine construction base is established and our business and contracting difficulties with the builder have been resolved. We have embarked on the development of Trident II which will vastly improve the effectiveness of these platforms over the full range of strategic requirements; therefore, it is imperative that we not interrupt our delivery schedule for these national stategic assets.

The nuclear aircraft carrier with seaborne tactical air power continues to be the single greatest advantage we enjoy over comparable Soviet naval forces. Aircraft carriers are to general purpose forces what Trident Submarines are to strategic forces. We have studied and debated for years as to what the optimum aircraft carrier should be. We have repeatedly concluded that we cannot improve on the *Nimitz* class CVN as the centerpiece of naval Battle Groups. Our carrier force is rapidly aging and seriously over committed. We must continue to replace some of these assets if we are at all serious about maintaining a credible Navy. As part of the Department of Defense's acquisition initiatives we have looked at all of our major procurements to see where real economies can be effected. Insufficient rates in the construction of capital warships have caused extended building periods with resultant increased costs. Economies which can be realized in the CVN program are greater than in any other, both-in terms of dollars saved and ship operating years gained. The full funding of two *Nimitz* class CVN's in fiscal year 1983 will permit the delivery of CVN-71 by 14 months, and improve delivery of CVN-72 and CVN-73 by nearly two years each. Despite the fluctuation in fiscal year 1983 TOA, the outlay rates to support this five year SCN plan are stable and provide desired utilization of the shipbuilding industry. The overview of the fiscal year 1983 SCN budget request is shown here. I will now quickly discuss each element of the fiscal year 1983 request.

TRIDENT

In view of the deletion by the Congress in fiscal year 1982 of the tenth Trident submarine, we are requesting two ships this year, the tenth and eleventh of the class. As you know, the Navy and the Electric Boat Division of General Dynamics have worked out a mutually acceptable resolution of previous problems, and we are confident that Electric Boat can and will deliver these ships on time and within cost projections. The lead ship, U.S.S. *Ohio,* delivered last year and has performed far better than expected. Eight ships were previously under contract and the ninth, the fiscal year 1981 ship, was awarded to Electric Boat Company in January. After two ships in fiscal year 1983, we anticipate building one Trident per year during the remainder of the Five Year plan. This building rate represents the minimum construction level required to provide for the orderly replacement of existing Polaris and Poseidon submarines. Eventual program size will be determined by results of future SALT actions and national strategic decisions. For two ships in fiscal year 1983, we are requesting $2,485.0 million.

NUCLEAR ATTACK SUBMARINE-SSN-688 CLASS

In the fiscal year 1982 DOD Appropriations Act, the Congress provided funds for two SSN-688s in fiscal year 1982 and long lead funding for three SSN-688s in fiscal year 1983 and three in fiscal year 1984. In order to achieve the force level objective of 100 SSNs, we need to build between three and four submarines a year. Funding constraints in fiscal year 1983 do not permit a third submarine this year but we hope to build three in fiscal year 1984 and obtain three to four per year thereafter. These submarines will all be constructed with the bow mounted Vertical Launch System for Tomahawk cruise missiles. This greatly increases the offensive capability of the SSN-688 and makes it a far more significant contributor to national defense. This year we are requesting $1,443.4 million for two SSN-688s which includes advance procurement for three ships in fiscal year 1984 and four in fiscal year 1985.

AIRCRAFT CARRIER (NUCLEAR POWERED)-CVN

The aircraft carrier remains the centerpiece of our Navy battle groups. This versatile ship, with its mix of offensive and defensive aircraft, provides the United States with power projection and sea control capability unmatched by any potential adversary. Navy's goal is still a deployable force of fifteen carriers. We are requesting full funding in fiscal year 1983 of $6,795.3 million dollars for CVN-72 and CVN-73. This amount, in addition to the $475 million appropriated by the Congress in fiscal year 1982, will permit delivery of each of these ships over twenty-two months earlier than if we bought them one at a time. As you know, Newport News Shipbuilding and Drydock Company is the only yard in the United States capable of building a nuclear aircraft carrier. We are confident that the ability to implement this multi-ship procurement contract with Newport News will result in the acquisition of these ships at the lowest possible cost in the shortest period of time. There can be no clearer signal of national resolve than the authorization and appropriation by the Congress of these powerful warships which have been requested by the Administration.

AIRCRAFT CARRIER SERVICE LIFE EXTENSION PROGRAM—CV SLEP

The CV SLEP program was initially developed to extend the service lives of four conventionally powered *Forrestal* class aircraft carriers from the nominal thirty years to forty-five years. The first ship to be indicated into the program, U.S.S. *Saratoga,* entered the Philadelphia Naval Shipyard in October 1980, and is now over fifty percent complete. U.S.S. *Forrestal,* the second ship in the program, will commence her SLEP in Philadelphia in January of 1983. Based on the success to date of the initial SLEP program and the necessity to extend the service life of the large deck carriers to sustain force levels, Navy has decided to extend the SLEP concept to the four carriers of the *Kitty Hawk* and *J. F. Kennedy* classes and to our first nuclear carrier, U.S.S. *Enterprise.* This will stretch-out the program until 2001 and provide over 130 additional years of carrier service life at a very attractive cost of less than twenty-five percent of the estimated new construction cost of a replacement ship. This year we are requesting $699.5 million for the SLEP of U.S.S. *Forrestal.*

GUIDED MISSILE CRUISER—CG-47 CLASS

The Aegis equipped CG-47 class ship is our highest priority surface combatant. The fiscal year 1983 budget includes a request for three, the eighth, ninth and tenth ships of the class. The first ship of this class, *Ticonderoga,* was authorized and funded in the fiscal year 1978 budget and was christened last year at Pascagoula, Mississippi by Mrs. Nancy Reagan. Thus, the first ship is afloat and will deliver in January 1983, less than a year from now.

The Aegis system installed in the CG-47 class is the most advanced anti-air warfare system in the world and is designed to counter the full spectrum of anti-ship missile threats of the 1980s and beyond. It provides area air defense in a high-density, high-threat, anti-ship missile environment. Our continuing assessment of Soviet missile-launching capabilities confirms that CG-47 class ships are urgently required in the fleet in numbers.

During the development of Aegis, the space and weight requirements for installation aboard ship have been reduced to the point where the system can be accommodated in the proven hull of the *Spruance*-class destroyer. This has reduced costs. In addition to a quantum improvement in anti-air warfare, the Aegis CG-47 class has superior capabilities in anti-submarine and anti-surface ship warfare, and improved passive protection. CG-47 class ships will operate as an essential component of battle groups formed around our aircraft carriers, and will enhance the battle group's ability to fight and survive in the most hostile environment.

The funding requirement for the CG-47 class in fiscal year 1983 is $3,134.4 million for three ships.

BATTLESHIP—BB-61 CLASS (REACTIVATION)

Despite all rumors to the contrary, the battleship program is alive and well. No program in recent memory has attracted more interest and controversy than the reactivation of the four *Iowa*-class battleships. They are described as too old, too vulnerable and too obsolescent. In fact, when recommissioned with their original sixteen inch guns with Harpoon and Tomahawk missiles added, they will be the most powerful and survivable surface combatants afloat. To date, the reactivation of *New Jersey* has been fully funded and $88 million in advance procurement appropriated for *Iowa.* This year we are requesting the remaining funding for *Iowa* as well as long lead for the third ship. We will undoubtedly again hear arguments against reactivation, but we are strongly convinced that the reactivation of these ships provides the U.S. Navy more offensive firepower per dollar expended than any other item in the shipbuilding program. These ships, with more armor and more firepower than any contemporary ship, are unquestioned bargains and should have the full support of all who desire the resurgence of U.S. seapower. This year we are requesting $417.4 million for funding of *Iowa* and advance procurement for the third battleship.

GUIDED MISSILE FRIGATE—FFG-7 CLASS

The fiscal year 1983 budget request continues the procurement of the FFG-7 class frigate with two additional ships and a funding requirement of $666.4 million.

These frigates are intended to accompany amphibious forces, underway replenishment groups, and serve as convoy escorts to provide protection against air, surface, and subsurface threats.

The FFG-7 class frigate is equipped with a general purpose missile launcher which can fire the Harpoon Surface-to-Surface Missile for offensive operations against surface ships as well as the SM-1 medium range missile against aircraft and missile targets. Anti-submarine warfare equipment includes the long-range Towed Array Detection System, TACTAS—for tactical towed array sonar, backed up by a hull-mounted sonar and with facilities to accommodate two LAMPS MK III helicopters for long-range detection and torpedo attack against submarines. other armament includes a 76MM dual-purpose NATO standard gun, a rapid-fire close-in point defense weapons system, and anti-submarine torpedoes. It contains survivability features superior to existing frigates.

Forty-eight FFG-7 class ships have previously been authorized, including three in the fiscal year 1982 budget.

LANDING SHIP DOCK—LSD-41 CLASS

In the fiscal year 1981 appropriation, Congress approved the first of the LSD-41 class and followed with the second of the class in fiscal year 1982. This year, Navy is requesting $417.0 million for the third LSD-41. This request includes $37.8 million in advance procurement for the fiscal year 1984 ship.

During the past year, the Department of the Navy has internally agreed upon an amphibious lift requirement which will support the assault echelon of a Marine Amphibious Force (MAF) plus lift for a Marine Amphibious Brigade (MAB). Procurement of this class of ship will enable us to begin the first phase of the modernization of our amphibious force which faces block obsolescence beginning in the early 1990's. The LSD-41 class ship will also provide increased capability to lift the Landing Craft Air Cushion Vehicle (LCAC). The second three LCACs are contained in the fiscal year 1983 SCN request. The introduction of LCAC to the amphibious force will cause a significant improvement in our ability to transport heavy equipment to many more beaches world-wide, at high speeds and with a commensurate reduction in vulnerability.

AMPHIBIOUS ASSAULT SHIP—LHD-1

In fiscal year 1982 the Congress appropriated $45.0 million for advance procurement of the Amphibious Assault Ship. This year we are requesting an additional $55.0 million in advance procurement with full funding of the lead ship in fiscal year 1984, a year earlier than previously planned.

The ship will be designed to be convertible, so that it can perform the traditional role as an amphibious ship or an alternative one as a V/STOL carrier for sea control or close air support. This conventionally powered LHD will be capable of operating in concert with other forces in an amphibious warfare and sea control environment. The LHD will operate primarily as an element of an amphibious task group or force in sustained offensive operations to gain or maintain sea control through projection of power ashore.

MINE COUNTERMEASURES SHIP—MCM-1 CLASS

In fiscal year 1982 the Congress appropriated $99.7 million for the lead ship of a new class of Mine Countermeasures ship and the fiscal year 1982 Supplemental added $19.0 million. This year we are requesting $371.6 million for four follow on ships. This represents a one year acceleration of the MCM program and is a reflection of the severity of the mining threat which we could face. These ships will replace the aging fleet of MSOs currently in service. They are designed to maximize shipboard performance while maintaining low acquisition and operational expenditures. The command and control suite will be state-of-the-art; capable of automatically integrating, processing and simultaneously displaying data from all ship's sensors; capable of storing and retrieving data for use by own ship and other fleet units for channel conditioning, mine hunting, neutralization and mechanical minesweeping operations. It is planned to construct 14 ships of this class.

AUXILIARY OCEAN SURVEILLANCE SHIP—AGOS

Since 1979 Congress has authorized construction of 12 TAGOS ships. These monohull ships support the mission requirements of the Surveillance Towed Array Sensor System—or Surtass. These 12 ships are currently under contract and will start to deliver in 1983. These ships have been properly sized to execute their mission over a majority of the worlds oceans. However, we also need a class of ship which can maintain a high degree of stability in rougher and stormier seas then can the conventional hull TAGOS. SWATH technology has proven its ability to sustain operations in higher sea states, and it is timely to employ this dual hull ship in this mission area. This year we are requesting $24.3 million in advance procurement for the lead AGOS as a fiscal year 1984 ship and the thirteenth ship in the Surtass program. It is our intent to build six AGOS which will, with the twelve TAGOS previously authorized, meet the minimum force level requirement of eighteen Surtass ships.

SALVAGE SHIP—ARS

The fiscal year 1983 request contains funds for the fourth new construction Salvage ship. This class is essentially a repeat of the successful ARS-38 class, updated to state-of-the-art equipment, habitability and environmental standards. A total of five ships is planned. $84.0 million is requested in fiscal year 1983 for this ship.

FLEET OILER—TAO-187 CLASS

The fiscal year 1983 budget requests $320.0 million for the construction of the second ship of the TAO-187 class. This includes $109.8 million in long lead funds for the third, fourth and fifth ships of the class, which will be contained in the fiscal year 1984 budget request. This class has been approved by the Department of Defense for five ship multi-year initial procurement, which will result in a saving of $72.0 million in acquisition cost of the first five ships. The TAO is one of our highest priority programs because of the urgent need to replace obsolete fleet oilers and to achieve a force level objective so critical to maintaining our Battle Forces at sea. Although these ships will be primarily constructed to commercial standards to reduce cost and accelerate construction, they fully meet our military requirements and could, in the event of loss in battle of our Battle Group station ships, provide partial replacement support.

HOSPITAL SHIP—TAH

In the original fiscal year 1982 request, Navy had included $10.0 million for advance procurement for acquisition and conversion of the SS *United States* as a Hospital Ship. This request was later deleted as the availability and conversion cost of the SS *United States* became questionable. The $300 million requested in the fiscal year 1983 budget is the first increment of a DOD estimate of $560 million over two years (fiscal year 1983-1984), which will permit the acquisition and coversion of two or more hospital ships with a combined capacity of at least two thousand beds and twenty-four operating rooms. Initial bids from prospective vendors have already been requested. The lack of afloat medical care is widely recognized as a most serious deficiency in our ability to support combat operations ashore, either employing amphibious or RDJTF forces. Afloat medical care in the form of hospital ships is a part of the overall continuing care needed to handle casualties which begins with the combat unit itself and extends through fleet hospital units ashore to CONUS hospitals for eventual recovery of the most serious combat casualties.

FAST LOGISTIC SHIPS—TAKRX

Six of these ships were purchased from a commercial source with fiscal year 1981 funds. The fiscal year 1982 appropriation provided for the purchase of the remaining two ships of the eight available and for the Roll on/Roll off (RO/RO) conversion of the first four. The $322.6 million requested this year is for the RO/RO coversion of the final four ships and for the maintenance of the ships while in the conversion period, a charge which can only be applied against SCN funds. With the approval of this fiscal year 1983 request, we will complete the purchase and conversion of eight ships which will provide a valuable element of fast sealift as an important contribution to the readiness posture of the nation. Without the full RO/RO conversion, these ships will not satisfy U.S. Army requirements for loading divisional sets of equipment. Of even greater significance is the fact that load and offload times would be much greater and would require far more sophisticated port facilities for offloading than would the requested RO/RO conversion.

CRAFT

The fiscal year 1983 Craft request includes both Landing and Service Craft lines for a total of six separate programs. The most critical of these is the Landing Craft Air Cushion (LCAC), a most important element of the amphibious assault force of the future. It has been developed in tandem with the LSD-41 to ensure compatibility. Additionally, the LHD-1 design will incorporate features to optimize LCAC operations. The request for three LCAC in fiscal year 1983 marks the second production year for this program. Other Landing Craft included this year are conventional LCM-8 boats, which are being purchased to support the TAKX program, funded under the O&MN account. Twenty LCM-8 are requested at a cost of $17.7 million. In the Service Craft line we are requesting six Patrol Craft (YP), which will replace the aging craft used to support Midshipmen training programs at the U.S. Naval Academy. The request also contains funds for six Large Harbor Tugs (YTB), Navy/Shipbuilder effort which refines the ship design developed during the preliminary design phase and produces a mutually agreed upon set of contract drawings and specifications.

The department believes that returning this element of the design funding process to the SCN account will provide closer correlation with the building program and permit greater reaction to Congressional initiatives.

MANUFACTURING TECHNOLOGY

The Manufacturing Technology of Mantech program provides for the development of productivity improvements in the U.S. shipyards. In the past the shipbuilding industry has made relatively few advances in improving the industrial process within the yard complex. The fiscal year 1983 budget request of $25.0 million is intended as initial seed funding to provide for productivity enhancement in ship construction, particularly within the CVN and TAO lines. During the course of fiscal year 1983, a careful evaluation will be made regarding future applications of Mantech to the entire shipbuilding program with a forecasted direct payoff in the long term reduction of ship procurement costs.

Mr. Chairman, that completes my overview of the fiscal year 1983 Shipbuilding and Conversion Program. I am delighted to have had the opportunity to appear before this committee in furtherance of our joint desire to significantly enhance the United States Navy as we seek to maintain maritime superiority. As I noted in my opening remarks, this is truly a watershed year for shipbuilding, and I earnestly solicit a continuation of the strong support which this committee has historically given to our shipbuilding program.

Thank you very much.

Mr. **Bennett**. We will go cast our vote and come back.

[Whereupon at 11:06 a.m. the subcommittee recessed for a vote at which time the open session ended.]

Afternoon Session

Mr. **Bennett**. The subcommittee will come to order. In accordance with the motion adopted on Wednesday, March 3, I believe, the subcommittee will now be in executive session. The staff will please be sure everybody leaves that is not cleared for top secret.

We have now been cleared I believe. I have a few questions I would like to ask. One of them is about the issue of the MK-92 fire control system installed on FFG-7 class frigates. The system is designed to provide professional, low firing cruise missiles. I would like to ask a number of questions. Would you describe the results of the operational evaluation of this system in the FFG, what deficiencies have been found? When was it done?

Admiral **Walters**. The operational evaluation of the system was done in the mid-1970's. And it generally performed well at the time. We have since learned that it was not adequately tested [deleted].

So, if I go now to fleet experience, we find that we have [deleted], and we have had a number of reliability problems with the system in fleet operations. The president of the Board of Inspection and Survey has consistently listed this as one of the discrepancies on every FFG that he has trialed.

Mr. **Bennett**. How does it compare in the environment projected for DDGX? In other words, is it going to be usable on the ship it was designed to be used on?

Admiral **Walters**. The Mark 92 fire control system is not planned for the DDGX.

Mr. **Bennett**. What is it for?

Admiral **Walters**. It is used in two classes of ships today, the FFG-7 and the PHM.

Mr. **Bennett**. How is it going to be when those environments are considered that those ships are going to be used? Does it have a failure there?

Admiral **Walters**. Yes, sir [deleted].

Mr. **Bennett**. What do you intend to do about it?

Admiral **Walters**. We have two programs ongoing right now to correct known deficiencies. The first phase is to correct the reliability problems. We hve gone through that, and Sperry, the manufacturer of the radar, has developed ordnance alterations which will go into the system to correct the reliability problems. These Ordalts will insure that the system will be operating when we need it. Those improvements have been developed and are to be installed commencing this year. That will make this system more reliable. It will also operate better [deleted].

Mr. **Bennett**. Will those improvements be on the ships you are building now that you are asking for on this?

Admiral **Walters**. Yes, sir; they will.

Mr. **Bennett**. [Deleted] has that problem been addressed?

Admiral **Walters**. No, sir.

Mr. **Bennett**. That is another problem?

Admiral **Walters**. Yes, sir; that is the third part of the problem. The second phase of this plan is to improve the performance of the radar [deleted]. Some of the reliability improvements in phase 2 will also improve its operation [deleted]. There is another development which has been proposed and we think is sound, and that is to design and build a coherent [deleted], which will approximately [deleted] the range of the system [deleted]. That program is being examined now and we expect to receive a proposal from the contractor. The [deleted] will take a couple of years or so to develop, and if successful we would be in a position to install it on the ships. It would not be in the new construction ships we are talking about, today, because we don't have it sufficiently developed, but it will be backfitted into them.

Mr. **Bennett**. You are still going to build the ships upon which all this is going to be placed. Do you have a degree of optimism that you are going to get the equipment in good shape to put on those ships?

Admiral **Walters**. I have a degree of optimism that the Mark 92 system can be made to work within its basic design limitations and to perform reasonably well [deleted] provided we do this [deleted] modification which is the next step. That is how we are spending the money that Congress has given us. We will complete the phase I and do the phase II, which is the [deleted].

Mr. **Bennett**. This equipment also has a problem with electronic countermeasures, doesn't it?

Admiral **Walters**. This is an X-band radar. It is reasonably good against electronic countermeasures. We have a suit of radars on that ship which are designed to compliment each other. The SPS-49 radar which is the search radar, [deleted], it is a reasonably good system against ECM.

Mr. **Bennett**. I yield to my staff.

Admiral **Walters**. Electronic countermeasures, I should say.

Mr. **Schafer**. As I understand, Admiral Walters, [deleted]. Is that an accurate representation?

Admiral **Walters**. If you can [deleted]. In the case of the X-band of course, you would have a combined search and track radar. So, it has some of the acquisition capabilities but is much [deleted] by design.

Mr. SCHAFER. Could you characterize at what level of electronic countermeasures that the existing system really starts to degrade?

Admiral WALTERS. In terms of megawatts, or watts, or square meter, no, I can't.

Mr. SCHAFER. Will this system operate, for example, in the environment you are using in designing the DDGX?

Admiral WALTERS. [Deleted.]

Mr. SCHAFER. No. You use a design——

Admiral WALTERS. We use a tough battle group scenario for the DDG. It is designed to be a battle force capable ship. It is designed to be [deleted]. X-band radar of the Mark 92 type would not fit that kind of a scenario simply because of [deleted]. So, the [deleted] factor is not a driver instead it is the power, size and range of the radar.

Mr. SCHAFER. As I understand also, the existing system have very limited capabilities against [deleted]. Furthermore, we had testimony earlier this week that a number of [deleted]. Are the modifications that you describe that are going into this system, will it allow the system to [deleted]?

Admiral WALTERS. The improvements we are putting into the 92 system are improvements which permit it to perform in its current mission, and that is against [deleted]. We are making [deleted] improvements in some systems. For example [deleted] improvement will be installed in the SLQ-32 EW equipment for the ship and in [deleted] was originally designed against the [deleted], but will be given [deleted] capability so the ship also will have [deleted]. We are not doing it in the other FFG fire control radars. I think the principal point though is that we didn't design the FFG-7 to be in the environment by itself where it would be attacked by [deleted].

Mr. SCHAFER. As I understand, the principal mission of the FFG-7 is escort. Certainly one of the major scenarios we would use that in would be between here and Europe. Are you suggesting that those convoys would operate in such an area that they wouldn't be subjected to cruise missile attack?

Admiral WALTERS. Cruise missile attack, yes, but the kind you are talking about [deleted], no, because the FFG-7 will operate in essentially three different kinds of operations: with a pure convoy, be it military or commercial; an underway replenishment group; and an amphibious group. Convoys will be be routed [deleted]. It wouldn't make sense to do it otherwise. At the same time, we fully intend [deleted].

The FFG was designed to have the capability to encounter the cruise missile that we anticipate in that kind of environment. For example one that is fired [deleted], which are fundamentally [deleted], not the types which come in from on [deleted]. In the other two areas in which the FFG would operate, for example, the underway replenishment groups would operate under the umbrella of the battle force, and amphibious force operations imply that you have the air and there will be adequate antiair assets.

The threat to FFG's is not from [deleted].

Mr. BENNETT. Are you keeping track of the time?

Well, I think we should because there are so many questions all of us have. It at least allows us to rotate it. I will give up my time now and go to Mr. Spence.

From now on we will go under the 5-minute rule. That doesn't mean we won't come back. We will come back seriatim. But if we don't do this, I could hog all the time. Mr. Spence could, too, I suppose. We will just have to keep rotating.

Mr. Spence.

Mr. SPENCE. Thank you, Mr. Chairman.

Admiral, I was sitting here talking about shipbuilding plans for the Tridents and 688's, especially, in view of the trouble we have had in the past. Maybe Admiral Fowler could comment on this, too. Would we have the capacity now really to build two Tridents and two SSN-688's?

Admiral WALTERS. Yes, sir. I will ask Admiral Fowler to expand on that.

Admiral FOWLER. I didn't understand your question, Mr. Spence.

Mr. SPENCE. The capacity to build two Tridents and two 688's.

Admiral FOWLER. Yes, sir, we have the capacity to build the two Tridents and two SSN-688's in the fiscal year 1983 budget.

Mr. SPENCE. We had some problems with the Tridents, looking behind and all that.

Admiral FOWLER. Yes, sir, we are presently on schedule with all of our submarines. I have a little worry about the outyear, 1985-86 timeframe on the Trident submarines. The SSN-688's are manned well enough to stay right on schedule. We have the capacity to build the submarines that are in the 1983 budget.

Mr. SPENCE. Something I have really been concerned about in the past few years, and I hadn't really experienced it, thought it had improved a whole lot, and that is our fire control systems, talking about radar and acquisition and all these kinds of things.

I was out on some ship one time looking at what they were doing. Hardly anything worked. If they even got a missile off a ship and it went like this, across the water, skimming along, that was a success just to get it off the ship. Then we were talking about the time you had for antiship missiles, a few seconds to acquire that target, track it and shoot it and everything, and given the problems we have with the radar and all these other problems, too, even with Egypt, can we handle these antiship missiles coming in? What would be the probability of kill? How many could we be assured of knocking down, say, 20 of them coming in, how many could we almost be assured of knocking down?

Admiral WALTERS. That kind of a scenario depends so much upon what kind of missiles and what level of jamming. But let me address it in a general nature.

First, Admiral McDonald, I would like to take you out on a mobile sea range and let you watch the ships fire, because I assure you they do better than your impression of the one visited. Overall you know, we have a missile capability that is in the neighborhood of about [deleted] percent single shot kill capability. That is about what we design them to do, and that is about what we get out of them.

Now, of course, the principal problem is how soon you can detect them, how many are in the raid and what kind of a raid is it. We have studies that show how much we can attrite against any number of different kinds of targets. Perhaps that might be a subject of a separate briefing because it is very complex. It is not an easy problem, but I am confident your fleet will perform well against a Soviet threat with our current missile systems, which are the finest in the world today.

No one including the Soviets has anything that will match the missile systems in our fleet today. Aegis is a step into the next generation. Again, I hope we can provide the opportunity for some of you to see that system and see how it performs. Through an evolutionary system we have improved the missile. The SM-2 specifically has the capability to destroy the [deleted].

We are constantly evolving in the development of these missiles and control systems like Aegis to stay ahead of the threat.

Mr. BENNETT. Mr. Dougherty.

Mr. DOUGHERTY. Thank you, Mr. Chairman.

Admiral, welcome. I would like to get on the record your comments about the *Saratoga* being on time and being done in a quality manner, is that correct?

Admiral WALTERS. Yes, sir.

Mr. DOUGHERTY. Thank you very much. Let's talk about the amphibious Navy.

Mr. SPENCE. Would it cost more?

Mr. DOUGHERTY. Cost more? I do not think so. Philadelphia is doing a good job, Mr. Spence. Talk about the amphibious Navy if we could, Admiral.

In going through your statements, you are talking about lift capability of assault echelons for a MAF and a MAB. What number of troops are we really talking about?

Admiral WALTERS. Sir, we are talking about 35,803 troops for the assault echelon of the MAF—including the Naval Support Element—and about 17,919 for a MAB. The MAB in this case also includes the Naval Support Command.

Mr. DOUGHERTY. We are also talking about assault echelons, not talking the math. You are talking about the ability to lift the assault echelons.

Admiral WALTERS. All combat troops are included in the assault echelon. The follow-on echelon is strictly sustaining support and supplies.

Mr. DOUGHERTY. The problem I have and this has been an ongoing problem when you talk the assault echelons, you are not talking a full marine division and air wing. You are talking about probably one-third of a Marine division and air wing if I am correct. That would be in the assault echelons carried on the gray bottoms, is that right?

Admiral WALTERS. I will have to provide that for the record.

[The following information was received for the record.

A MAF cannot necessarily be equated to a division and wing since it is a task organization. In point of fact, the national MAF requirement for which we plan is a reinforced Marine division and air wing. You are right in that we are not talking about a full Marine division and air wing in the MAF assault echelon. However, it would not be entirely correct to say that only a third of a Marine division and air wing make-up the assault echelon. The assault echelon is actually made up of one third of the cargo cube, half of the vehicle square, 65 percent of the people and 100 percent of the helicopters in a full MAF. The fixed-wing aircraft would be flown over in a fly-in echelon to join up with the assault echelon and the remainder of the MAF would constitute the follow-on echelon.

Mr. Dougherty. The problem I have frankly, I think the impression made when we talk about amphibious lift, we are supposed to be able to lift a Marine amphibious force, division and air wing, lift a regiment and corresponding air squadron, and the fact of the matter is we cannot through Navy amphibious forces lift those forces. We can only lift the assault echeons which is about one-third of a Marine division air wing and one-third of a Marine regiment and air squadron.

I think that is the point that has to be made because the whole concept is based on the idea that there will be ships to provide follow-one echelons. Those ships would be basically supply-type ships, old AKA, civilians ships in many instances.

Admiral Walters. That is right.

Mr. Dougherty. The fact the committee has to address, Mr. Chairman, is that there is no U.S. maritime navy—merchant marine—to provide the kind of follow-on echelons you are talking about. So, in essence we do not have an amphibious Navy. We do not have the ability to project more than a Marine regiment in two instances ashore in Navy amphibious ships without having to rely upon civilian merchant marine ships to bring on the follow-on echelons, which I think places a severe limitation on our whole amphibious capability. By my records, Admiral, I am asking some quick questions because there are a lot of questions to ask you today.

I believe we currently have 67 ships in the amphibious Navy, is that correct?

Admiral Walters. That is correct. However, we do not count *Lasalle* or *Coronado*, which are both designated as flagships. We normally use 65 as our current amphibious number.

Mr. Dougherty. Through the figures, you would need 54 or 55 to carry a Marine amphibious MAB, is that about right?

Admiral Walters. A MAF.

Mr. Dougherty. We would need 55 ships to carry an amphibious force, the division air wing, if we were to deploy it as a whole unit. In effect of the 67 we currently have, at least 7 are not reserve fleet, are they not?

Admiral Walters. I think that is correct. Although we are preparing now to bring four LKA's back into the active fleet.

Mr. Dougherty. I wish we would have heard that in testimony today. I would be interested in having something in writing if we could because in effect, if I repeat the questions I asked last year, Mr. Chairman, we don't have enough amphibious ships in the U.S. Navy to carry one Marine division and an air wing.

So, when we talk about where we are going to, we have to look at where we are now. Today we don't have it. Is it also not true, Admiral, that we are going to decommission by 1987 eight LSD 28's, which is all of them, and by 1996 we are going to get rid of five of the LPH's, the helicopter carriers, of which we only have seven?

Admiral Walters. That has been the plan in the past. At this time due to the increase in our objective, from a MAF to a MAF Plus a MAB as well as the increased fingerprints of these Marine units, we are now starting to look at the possibility of a service life extension for the LPH and LPD classes.

Mr. **Dougherty**. I certainly would like to have that information as soon as possible because, as this committee knows, the amphibious lift is my bag. I am not at all satisfied with projections in 5-year plans submitted by the Secretary, on building an amphibious Navy because the late 1980's and early 1990's absolutely wipe out what little we have left of an amphibious Navy.

[The following information was received for the record:]

The LSD 28 class will reach 30 years of service life during the 1984-1987 timeframe. These eight ships will be extended almost three years beyond the normal 30 years of service life. As the LSD 28 class is retired it will be replaced by the LSD 41 class. The overall lift capability will increase during the decade since the LSD 41s have a much large capacity.

Table 1 depicts the LSD 28 class retirement plan and the delivery schedule for the LSD 41 class.

TABLE 1

	Fiscal year—							
	1984	1985	1986	1987	1988	1989	1990	1991
Original LSD 28 retirement	1	3	3	1				
Current LSD 28 retirement	1		1	1			5	
LSD 41 deliveries		1	1	1	2	1	2	2

Recently a decision was made to restore the four naval reserve LKAs to the active fleet. This was done to provide the Navy more flexibility in meeting our peacetime and wartime lift requirements. The LKAs end of service life (ESL) is 1998.

The LPD 4 class will reach ESL from 1995 through 2001 and the LPH 2 class reach ESL from 1991 through 2000. Service life extension programs for both the LPD 4 and LPH 2 classes are under consideration. These programs would extend the service life of the LPH 2 class by 3 to 5 years and the LPD 4 class by 10 to 15 years. It is anticipated that these SLEP programs would commence in fiscal year 1986.

Mr. **Bennett**. Go ahead.

Mr. **Dougherty**. I am also very much concerned with the new phrase that is appearing when we start talking about building the LHA or LHG.

Admiral **Walters**. LHD-1.

Mr. **Dougherty**. Well, I don't like the phrase, Admiral, I will try to pull it out, about having an alternate use for sea control.

Admiral **Walters**. Convertible?

Mr. **Dougherty**. Convertible on page 27 in your testimony. We are supposed to be building these ships for the amphibious Navy. Now all of a sudden in testimony the words start cropping up, this conventionally powered LHD will be capable of operating in concert with other forces and sea control environment. Are we building an amphibious ship or a ship for sea control? I cannot accept we are going to say we are going to rebuild the amphibious Navy by building LHD's and all of a sudden find out we will use them for sea control purposes which is to get them away from the prime mission which is to land a landing force.

Admiral **Walters**. I assure you these are first and primarily amphibious warfare ships.

Mr. **Bennett**. Mr. McDonald.

Mr. **McDonald**. Thank you.

Admiral, you were speaking just as I came in from the last vote on the floor about the quality of the missiles carried aboard our ships, like superior quality to any others in the world today, is that correct?

Admiral **Walters**. Yes, sir.

Mr. **McDonald**. Does that mean the missiles we are working on or those in place as compared to other navies?

Admiral **Walters**. So far as I know it includes all of the above, the ones we have and the ones we are working on to my knowledge.

Mr. **McDonald**. As compared to the ones aboard the ships right now, how does that stack up?

Admiral **Walters**. I am not sure I understand your question.

Mr. **McDonald**. Generally speaking in the areas of R. & D., we look very impressive with what is in the laboratories or on the drawing boards, blueprints, and artists' conceptual models. In the artists' conceptual models, I have never seen us miss the target, but what bothers me, when you look at Soviet shipping by comparison, those ships seem to be absolutely bristling with guns as compared to total tonnage. You look at comparison studies with similar tonnage ships in our Navy, and maybe we are doing something very smart and they are doing something very dumb, based upon the amount of firepower per tonnage type ratio. Their ships look quite impressive. And their material is out at sea. It looks like to me so much of our material is on the drawing boards, or in development and so forth.

That is the general theme that we seem to run across, not just in the Navy but in the Air Force and Army as well. Their material tends to be out in the field, and ours is under development, and that has been the trend year after year. Now are you telling me that the basic missile firepower that is at sea now is superior to the potential adversary that is at sea now?

Admiral **Walters**. Well, I think you may be using firepower differently than I was using effectiveness. If I look at firepower I would have to examine the number of missile launchers and radars that they have versus how many we have. I was talking about the effectiveness of the weapons that we employ.

You will find more weapons on some of their ships than on some of ours. In my opinion, the only advantage they have at this time is [deleted]. At present our Harpoon has a range of 60 miles but Tomahawk is rapidly on the way with over a 200-mile range.

Mr. **McDonald**. Do we have a ship that would equal, in your opinion, outside of the aircraft carriers, the surface ships, the effectiveness and fighting capability of, say, the *Kirov* ?

Admiral **Walters**. Ship for ship, considering all the weapons? No, sir, not today.

Mr. **McDonald**. Do we have anything planned that you think will be out fairly soon, the next couple of years that would equal the *Kirov* ?

Admiral **Walters**. CG-47 and the DDG-51 which is being designed now will have capability that is comparable in terms of the massive firepower you are talking about, and in my opinion will have more capable weapons in the magazines.

Mr. McDonald. Does it have the standoff capability the *Kirov* has today?

Admiral Walters. Yes, it will. Those ships will be armed with Tomahawk, either the antiship version, or the land attack version.

Mr. McDonald. When is the reasonable date that those will be out in the fleet?

Admiral Walters. The first CG–47 will be commissioned in January next year. The first Tomahawk capability is that class will be in the ships that were included in the 1982 building program, which is in the vertical launch systems. We will have Tomahawk in other ships in armored box launchers, but the Aegis ship that will be the first to have the vertical launch system which would put it in the category of the *Kirov* is in the 1982 program. The *New Jersey* will have Tomahawk at sea next year in armored box launchers.

Mr. McDonald. You feel like in a war game type scenario that they would be superior to the counterparts in the Soviet fleet?

Admiral Walters. I feel that the kind of capability we are designing for our overall balanced Navy has the potential of standing up against anything the Soviets are building. I am talking about the battle force.

Admiral McDonald. May I add something, Mr. McDonald as a namesake here?

Mr. McDonald. Yes.

Admiral McDonald. You have created a scenario to respond to and creating a situation we don't want to put ourselves into tactically in any war at sea. The aircraft carrier, as you have implied in the early part of your statement is really the balancer or leveler for all of that, and would in fact create the situation where the *Kirov* is at risk in a war at sea, rather than the other way around. So, where we would operate battle groups, carrier battle groups, we would have the aircraft as an extension of some of the systems that Admiral Walters is talking about on the CG–47 or other ships.

So, I think to pit the *Kirov* against any one surface ship we have in the Navy gives you a false sense of capabilities that the Soviet Navy at sea would have, because I do not think we would let ourselves get into that situation. I don't mean to confuse the issue and I know that the answers that you were driving to are related to the capabilities that the Soviets have at sea in missiles as opposed to what we have. But, you have to look at it, I think, in the total war fighting capabilities of the battle group, and not just one ship against another.

Does that help you sir?

Mr. McDonald. Yes, thank you.

Mr. Bennett. Mr. Emery.

Mr. Emery. Thank you very much, Mr. Chairman.

Admiral, I wonder if you can tell me what the plans are for two or more shipyards working on the CG–47 program. Is there now any information you can give us about a second construction yard for the CG–47?

Admiral Walters. Yes, I will defer that question to Admiral Fowler.

Admiral Fowler. We have a solicitation out for a second yard now. We have four yards participating in that. We will have proposals in very shortly, evaluate those, and select a second source by about June of this year.

Mr. **Emery**. As far as the DDG–51 program is concerned, can you tell me how that is developing and when we can expect lead ship construction?

Admiral **Fowler**. Our plans on lead ship construction are not fully firm yet. We have basically completed the concept design phase, done most of the tradeoffs and arrived at a preliminary set of characteristics. We are now just starting the preliminary design phase where we go through and refine those characteristics and in about 1 year we will be down to the point where we will have a set of characteristics ready to go into the contract design phase, which develops about 700 or 800 pages of specifications and about 100 drawings and describe the ship in a way we could the price it for budget quality.

That is the present plan for design. Later this year we will start the solicitation to get the shipbuilder in early into the design phase. We will probably have a competition for two yards, either of which could wind up as the building yard. That will start later this calendar year.

Mr. **Emery**. Can you tell me what SSES technology has been incorporated in the DDG–51 to date and what we can expect might be added before that final design is completed?

Admiral **Fowler**. We are working the two programs, DDG and SSES programs in close harmony. So far we have come up with two modules that will include either missiles or a gun, 5-inch gun. The SSES program as a result of the Congress putting the $10 million in last year is going to produce during this year a preliminary set of standards we are going to adopt if they prove to be satisfactory when we get them put together. That is going to be looked at in conjunction with the DDG–51 design. We are going to adopt all the ideas that come out of the SSES program into the DDG–51 design that is feasible as we develop the ideas and refine them to the point where they are practical.

Mr. **Emery**. It appears from what I can see that the Navy is far more comfortable on what we have on SSES now than it has been in the past. Is that a fair conclusion?

Admiral **Fowler**. I think the funding in prior years was like $2 million or less. So, we are up by at least a times five in enthusiasm. Money makes a lot of difference, so we are moving along on it. Yes, I think everybody I know of accepts the concept. It is a good idea. It is arriving at some way of making it happen that is the difficult part. That is what we are working on.

Mr. **Emery**. Would the Navy be amenable to continuation of that approximately $10 million funding level? I understand the fiscal year 1983 request is only about $1.9 million.

Admiral **Fowler**. We are going to do as much as we can. We have got the thing into the DDG–51. So to some extent some of the efforts we would do would, is going to be funded out of the DDG–51 design money. We are starting to get into real practical factors now. But we can always use more money in that effort, yes, sir.

Mr. **Emery**. Finally, back to the FFG–7 program, I know that the procurement schedule calls for two, two, two, three and three, if I remember. Those would go fiscal year to fiscal year. Is there a logic in your estimation to compressing that procurement schedule a bit so we complete the frigate buys in maybe a shorter period of time, not aiming to build more but instead of building two and two, instead build maybe three in 1983, three in 1984, three in 1985, and three in 1986 or some such thing like that. Wouldn't that help the industrial base problem a bit and guarantee a smoother transition into the DDG-51 or CG-47 program possibly?

Admiral **Walters**. It might improve the industrial base but our problem is that we are getting close to our objective in FFG's. When we increase the numbers of FFG's it tends to force something else out of the shipbuilding plan as we try to create a balance in the program within a given amount of dollars. We need the 12 we have in the program to get us to a force level objective, but trying to figure out how to buy them, 3 or 4 in 1 year, with all of the other competing requirements becomes difficult problem.

Mr. **Emery**. The problem obviously is that if you have two shipyards and one Bath Iron Works fighting over two ships we have a little bit of a problem. I would hope that would be taken into consideration as we put all these things together.

Mr. **Bennett**. It looks like we could probably finish up here by 1 o'clock easily. So, in order to evade coming back at 2 o'clock, we will go over and cast our vote. Mr. McDonald, I sent him already so he will come back in a hurry. We will go on and finish up as fast as we can here this morning because we are almost sure to get through before 1 o'clock anyway.

We will cast our vote and come right back.

[Recess for vote at 12 noon.]

Mr. **Bennett**. Admiral McDonald, I believe you have a statement you would like to submit either for the record or orally or both.

Admiral **McDonald**. Mr. Chairman, I appreciate this opportunity and I do have a prepared statement. I would for the convenience of the committee request it be submitted for the record only, sir.

Mr. **Bennett**. We will do that. Do you want to add to it?

Biographical Sketch of Vice Adm. Wesley L. McDonald

Vice Admiral Wesley L. McDonald, of Arlington, Virginia, is a carrier aviator who has served in various staff and command positions since he graduated from the U.S. Naval Academy in 1946. His formal education includes Randall's Preparatory School (Washington, D.C.), U.S. Naval Academy (BS) and George Washington University (MS).

Prior to entering flight training in 1948, Ensign McDonald was a member of Admiral Richard E. Byrd's South Pole Expedition "High Jump." After receiving his wings, the Admiral served in several carrier fighter and attack squadrons.

Command tours of duty includes Attack Squadron Fifty Six, Carrier Six Wing Fifteen, amphibious landing ship dock U.S.S. *Hermitage*, and the aircraft carrier U.S.S. *Coral Sea*. While in command of *Coral Sea*, he was selected for promotion to Rear Admiral and assigned duty as Commandant, Thirteenth Naval District. In 1972 he assumed command of Carrier Group Three and deployed to the Western Pacific. This assignment in the Western Pacific was continued when Rear Admiral McDonald was assigned as Commander Naval Air Force Pacific's representative embarked in U.S.S. *Midway*, homeporting in Yokosuka, Japan. He then served as the Chief of Naval Air Training for one year before being reassigned to Washington in August 1975 for duty as the Deputy, Chief of Naval Personnel.

Vice Admiral McDonald was promoted to his present rank and assumed command of the Second Fleet in July 1977 with responsibilities for planning and directing operations to gain and maintain control of sea areas as required to defend the United States, U.S. possessions, and island bases.

Vice Admiral McDonald assumed his present position as Deputy Chief of Naval Operations (Air Warfare) in July 1979, with responsibilities for establishing policy for the conduct of naval air warfare and determining plans and requirements for naval aircraft, air weapons systems, aircraft carriers, and specified aviation type ships. He is the principal advisor to the Chief of Naval Operations for all matters involving naval aviation.

Personal decorations include the Distinguished Service Medal, Legion of Merit (2), Distinguished Flying Cross (2), Bronze Star, Defense Meritorious Service Medal, Meritorious Service Medal, four Air Medals, Joint Service Commendation Medal, and the Navy Commendation Medal.

Married to the former Norma Joy of Arlington, Virginia the McDonald's have four children and reside at Quarters "V" in the Washington Navy Yard.

WRITTEN STATEMENT OF VICE ADM. WESLEY L. McDONALD

INTRODUCTION

Mr. Chairman, I am pleased to have this opportunity to present to this committee my assessment of the nuclear carrier program and its key role in the restoration of maritime superiority to the United States. Both the Secretary of the Navy and the Chief of Naval Operations have comprehensively testified to the necessity for this restoration.

Vice Admiral Walters, here with me today, has provided you with an overview of the entire shipbuilding program. I am here to present additional testimony, specifically related to our carrier construction plan, and how it will provide the essential element of the carrier battle group, as we expand our Navy to restore maritime superiority. I would first like to present a step by step logic assessment of the requirements, or missions, the U.S. Navy is tasked to fill and our plans to meet these missions. Thereafter, I will discuss the acquisition profile for multiship procurement and its associated advantages.

MISSIONS

While Americans have historically been uneasy about the maintenance of a large military establishment and high defense budgets, the vast majority of our countrymen and women recognize the requirement for a national defense posture which is strong enough to preserve the peace and capable enough to ensure victory should deterrence fail. They are properly concerned about the risks to our people and our interests overseas, including our growing economic dependence on raw materials and markets abroad. There is also an increasing apprehension about our ability to defend our interests in third world countries and to stand firm against a Soviet incursion far from our shores, without resorting to a nuclear option.

Naval forces have proven to be time and again the best—and sometimes the only—means to provide a broad range of responses worldwide against threats to our national security and/or vital interests. Mobile, flexible and autonomous, their use is highly selectable. They can be deployed or recalled, engaged or disengaged as circumstances warrant. Of all the world's naval forces, the aircraft carrier battle group is unquestionably the most flexible and powerful—possessing the full spectrum of capabilities necessary to defeat our potential enemies at sea. The carrier battle group's essence is in its tactical air power which adds a dimension of sea control and power projection otherwise unattainable. The unexceeded war-fighting capability of the carrier airwing, and that inherent in the accompanying escorts, serves as a preeminent display of Amercian sea power and, as such, is a vital deterrent to conflict.

More importantly, the carrier battle group is the essential ingredient of naval power upon which our maritime strategy is based. It is the warfighting potential of this most potent force which is the major naval element in the war plans of the component commanders in the Atlantic, Pacific, and European theaters.

PLATFORM TO FULFILL THE MISSION

There exists today a substantial mismatch between our national strategy and the Navy's current force levels. As powerful as our carrier battle groups are, their current number provides insufficient warfighting capacity, particularly in the area of sea-based tactical air, to fulfill today's worldwide commitments. In order to reduce this mismatch, the Navy requires additional ships and, most specifically, additional platforms (carriers) on which to base its tactical air power in order to provide the full range of capability in the four dimensions of subsurface, surface, land, and air warfare. These platforms must be able to carry an offensive punch to the forward areas of all the oceans and defend against existing and projected threats. They must possess maximum sustainability by providing sufficient fuel, ammunition, parts, maintenance and subsistence for the platform and the embarked aircraft. They must be both flexible and versatile, capable of altering weapon systems to meet the threat.

Since these platforms will constitute a sizeable portion of our naval power, their survivability is of paramount concern. To this end, the synergistic effect of the accompanying escorts and other units in direct support, coupled with the self-contained carrier based tactical airpower, provides a most credible defensive posture. Individual survivability can be further enhanced through incorporation of point defense weapons systems, armor, magazine ballistic and torpedo protection, and extensive damage control features. Additionally, through minimum dependence on restrictive logistic resupply evolutions, the carrier battle group can execute extended high speed operations that provide additional options to exploit the protection of the ocean's expanse such as taking advantage of weather and, when warranted, out-running certain threats. Most importantly, the multi-faceted offensive punch of the carrier battle group can go in harms way and defeat the potential enemy's striking power.

These sea based TacAir platforms should also minimize operating costs through the most efficient use of manpower and base operating support facilities. In addition, they must be able to conduct all phases of operations with the greatest margin of safety in high sea states and all adverse weather conditions.

These desired platform characteristics are best obtained in the large deck nuclear carrier. Large deck carriers of the *Forrestal* and *Nimitz* classes, contrary to popular conjecture, are the most difficult to sink or disable. Their construction, enhanced by armored decks and sides, and extensive compartmentation, makes them significantly more survivable than other surface ships. Carriers, when compared to foreign land bases, are neither vulnerable to political whim nor guerrilla attacks, and their inherent mobility makes the enemy's targeting and weaponeering tasks markedly more difficult.

Extensive study and analyses of the type and size of platform needed to fulfill the Navy's requirement has consistently revealed that the *Nimitz*-class carrier is the best platform we can build upon which to base tactical air power at sea. When compared to a smaller platform in the 40,000 ton range, the synergistic effect of the multi-mission, full range of warfighting capability provided by the large deck carrier to its airwing reveals significant advantages over that available in the smaller deck. From the standpoint of warfighting effectiveness, operational suitability, survivability, sustainability and costs, the *Nimitz*-class carrier provides the best return on our investment.

The addition of nuclear power provides the big deck carrier with an unequaled capacity to meet the critical operational characteristics of sustainability, rapid response, high speed and overall mobility. The inherent capabilities of nuclear power in these vital areas cannot be duplicated by any other type of propulsion system. Based on a thirty-year life cycle, the cost of a CVN is roughly equal to that of a conventionally powered aircraft carrier of similar size. However, beyond thirty years, the balance clearly favors the CVN. I would like to point out here that we are currently planning a 45 year service life for our existing carrier force through the service life extension program (SLEP) and will continue this type of program into the foreseeable future.

This nation has neither the desire, nor the assets, to conduct a war of attrition with any potential enemy. Our naval tactics are based on the utilization of a tremendous range and depth of offensive and defensive power—coupled with the use of concealment, surprise, and freedom of action—to project the necessary force to win a war at sea. Against a modern threat, the carrier battle group, with its centroid being the large deck CVN, best executes these tactics.

FORCE LEVEL

Based on national planning estimates, analysis, studies, and real-world operational experience, coupled with the realities of affordability and attainability, the CNO has determined that fifteen deployable carrier battle groups are essential to say again with confidence that we have attained maritime superiority. With the commissioning of the U.S.S. *Carl Vinson* (CVN 70) this month, the United States will have thirteen deployable carriers.

The arrival of the already authorized U.S.S. *Theodore Roosevelt* (CVN 71) in December 1986 will provide U.S. Navy with the fourteenth deployable deck by late

1987. In order to achieve the goal of fifteen deployable carriers, we must accomplish the following actions: (1) extend the service life of *Midway* and *Coral Sea;* (2) continue the service life extension program (SLEP) of the *Forrestal*-class and subsequent carriers; and (3) execute the CVN construction plan. Our current program includes accomplishments of all of these initiatives.

Additionally, we plan to augment our sea based tactical air through the provision of a convertible multi-mission capability in our new amphibious assault ship, the LHD-1. We also plan to continue the use of our existing LHA and LPHs as sea based platforms for Marine Corps AV-8 Harriers. Thus we intend to move forward on two fronts—

First, acquire CVN 72 and 73 in order to proceed toward Navy's goal of obtaining fifteen large deck carrier battle groups.

Second, develop the LHD-1 as a multi-mission platform capable of supplying TacAir augmentation when needed.

ACQUISITION

The best method of acquiring CVN 72 and 73 is the one the President recommends—to fully fund the two ships in fiscal year 1983. This bold strategy permits the purchase of two ship sets of equipment and serial fabrication of major assemblies, and is aimed at assuring the most economic, efficient and rapid means of obtaining two new *Nimitz*-class carriers.

The fully funded two-ship procurement plan provides two major advantages: First, the increased productivity, made possible by improved planning, scheduling and facility utilization, will deliver each ship twenty-two months earlier and provide significant cost savings because of: Reduced escalation from earlier delivery; economical order quantity savings from multiple ship set buys; reduction of start-up, set-up and other non-recurring costs; and improved planning, manpower utilization and productivity.

Second, the improvement in vendor continuity, and reduction of production gaps at the prime and subcontractor levels, will provide a stronger industrial base.

CONCLUSION

In conclusion, the vital role of sea-based tactical air will continue into the foreseeable future and may increase as western dependence on the sea for energy, raw materials and commerce grows.

The single action of fully funding two nuclear carriers in fiscal year 1983 will not provide the Navy fifteen deployable carriers in this decade; however, it will bring us much closer to our goal, provide each of these needed carriers almost two years earlier, and will strengthen our industrial base.

I believe this proposed approach is in the spirit of the congressional resolution which calls for a 600-ship Navy fully capable of being used as a major instrument of foreign policy.

These two large deck, nuclear powered aircraft carriers are at the core of the Navy's balanced expansion program to meet this goal.

STATEMENT OF VICE ADM. WESLEY L. McDONALD, DEPUTY CHIEF OF NAVAL OPERATIONS (AIR WARFARE)

Admiral McDONALD. My participation is primarily to discuss CVN 72–73 and to state Navy's requirement for 15 carriers. As Admiral Hayward has articulated to the full committee, the only way that he sees restoration of maritime superiority is through the attainment of 15 carrier battle groups. Obviously we are not there now. There is a need for additional carriers to be introduced into the Navy in the outyears and this sort of series buy, if you will, Mr. Chairman, is the most cost-effective. It is the method that will give us the most potential in a timely manner and I think will respond most dramatically to the national strategy of this country.

I know the committee, and the Congress as a whole, have a tremendous problem with the bill to authorize that at $6.7 billion in the 1983 budget. I appreciate very much your interest in trying to see if there are ways that we can word our request so that that total authorization does not dramatically appear up front.

Mr. **Bennett**. It does not bother me, it is just that I am afraid that is what they are going to attack.

Admiral **McDonald**. Yes, sir, I understand that and don't want that. I am being nonparochial if I may, as an aviator, to be selling aircraft carriers out of Admiral Walters SCN account but I mean that truthfully, and in so far as the whole Navy is concerned, we are focusing our fighting capability around the aircraft carrier. That is where our projection of power, and our sea control missions are best served.

As Admiral Fowler had indicated earlier, the thing that concerns me with any alternatives to our current procurement strategy is the lack of commitment that a contractor—that is, the Newport News Shipbuilding Co.—might perceive. We would then start losing some of the projected savings. Could I have slide No. 6?

FISCAL YEAR 1983 CVN 72/73 MULTISHIP ACQUISITION POTENTIAL SAVINGS—ANNUAL VERSUS MULTISHIP

[In millions of dollars]

	Fiscal year—						Total
	1982	1983	1984	1985	1986	1987	
Annual proposal [1]	[2] 475	583	3,056	945	2,965		8,024
CVN 72/73 multiship	475	6,795					7,270
Savings		(6,212)	3,056	945	2,965		754

[1] Based upon a full funded program with CVN 72 in fiscal year 1984 and CVN 73 in fiscal year 1986.

[2] Nuclear long lead advance procurement (CVN 72).

Mr. **Bennett**. It is difficult—well, since the contractor knows that you could obviously not make any more money available, and the Federal Government not lose anything by it, so the credibility of the commitment would be very substantially eroded by not having the second carrier.

Admiral **McDonald**. That is the concern I have, Mr. Chairman.

Mr. **Bennett**. Without it really, you wouldn't get the benefits.

Admiral **McDonald**. We would not get the benefits if he does not have a two-ship commitment. If we slide any kind of funding 1 year, or 2 years, you then start dealing with the high inflation rates that you have in the outyears. Some of the $754 million we project on those two ships alone would be eroded.

Mr. **Bennett**. Wouldn't be any way of doing it by allowing you to contract it and have a bond that you would forfeit or something like that if he didn't go forward with it?

Admiral **McDonald**. I am not smart enough to answer that, Mr. Chairman. But I am sure Admiral Fowler's people will be looking at this, because it has been expressed as a concern of the committee prior to this. Could I see slide No. 7, please? This is the money that, if you did it——

OUTLAYS

[In millions of dollars]

	Fiscal year—						To complete	Total
	1982	1983	1984	1985	1986	1987		
Traditional	72	210	422	524	744	1,102	4,920	8,024
Multiship	72	235	482	780	929	1,374	3,398	7,270
Difference		25	60	256	155	272	(1,522)	(754)

Mr. **Bennett**. You would save?

Admiral **McDonald**. Yes, sir. Here are the moneys that would be required if you were to authorize a traditional buy, where we would—you would, authorize and procure in 1984, in an 1984 buy, and then in an 1986 buy, it woud cost you this total amount of money to buy the two ships—$8.02 billion—I do not think that the need for the two carriers is a question any more. I think there is a sense of commitment that the Navy should drive toward 15 carriers, it is just a question of when and how you buy them. If you then look at the multiship procurement, these are the outlay dollars that go into those types of funding lines. The delta or difference between the two in actual dollars it costs the Government to spend that year really isn't that dramatic. Not that $25 million is not a lot of money. I have been around Washington for several years now and I am still amazed with the numbers we throw glibly around. It is a lot of money. But the savings are the important things when you look down the road. That is and 10-percent savings.

Mr. **Bennett**. How about a contract that allowed the Navy to have a contract for two multiyear, and if Congress failed to appropriate the money for the second one, that out-of-pocket expenditures by the contractor would be remunerated back to the contractor? I do not know.

Admiral **Fowler**. Mr. Chairman, I think what you are talking about is something that is normally called a contingent liability. That if we fail——

Mr. **Bennett**. Sounds better than what I said, yes.

Admiral **Fowler**. If we failed to do whatever it is we promise to do, then there would be some kind of contingent liability that the Government would have. That usually requires some kind of congressional action to authorize us to take on that large liability.

Mr. **Bennett**. It would be tremendous, hundreds of millions. On the other hand, to be brutally frank with you, if the Congress thought that was a good idea, then I think there is no chance we wouldn't get the carrier the next year because they would see all that red ink going by there that didn't buy anything. So, I would think you would have a tremendous pressure to build that second carrier with that kind of liability. Whether that would be attractive to Congress I don't know. But that might be a workable thing, wouldn't it? That is a possible way of making it work. I mean from the contractor's standpoint, if he knew if he did expend money on that multiyear contracting buy, and he was going to be remunerated for that, although he would see litigation which he wouldn't really want, he would nevertheless feel he was going to get back what he put out. Also he would be pretty well assured it would go through because he would know Congress wouldn't want to throw away hundreds of millions of dollars on a ship that isn't built. Is there anything else? I am sure I have used up my second 5 minutes. Admiral Walters wants to discuss DDG, I thought.

Admiral WALTERS. Yes, sir.

Mr. BENNETT. All right.

Admiral WALTERS. If I could just very briefly run over it and then address some of the issues, because there are several issues involved. This is just the background as to why we need it.

DDG 51 H.M. & E. MAJOR CHARACTERISTICS

Main propulsion.—4 LM2500; 4 turbine generators; twin shafts and rudders; 30 Kt max., [deleted] NM @ 20 Kt endurance; efficency upgrade.

Ship design.—Seakeeping hull; steel ship; 2 "A" weapons modules; 1 "B" weapon module; Helo landing platform.

Survivability.—Increased fragment protection; vital spaces in the hull; collective protection system; [deleted] PSI blast; [deleted] keel shock factor; EMP 50,000 volts/meter.

Ship emissions.—RF and IR suppressed; DD-963 noise equivalent.

Admiral WALTERS. I do not think I have to explain to the committee why we need the ship. In looking at the characteristics that the Secretary of the Navy has expressed to you that we were going to include these are the kinds of things we have decided upon. Regarding main propulsion, specifically twin shafts 30 knots, [deleted] miles at 20 knots. Sea-keeping hull, a steel ship, using the SSES concept. Mr. Spence asked a few minutes ago for the operators' view. My view is that this makes all the sense in the world. The engineering standards are the hardest elements of the plan to agree to. We are indeed designing modularity into the ship. The biggest problem is how to do it. How do you determine what you are going to put in that module in the year 2010? That would be the mid-life upgrade of the ship. The DDG-51 will be the most survivable surface ship we have designed and built outside of the aircraft carrier since World War II. We will achieve the noise equivalent of the DD-963 plus RF and IR signature reduction. Those are the things the Secretary told you we would do. All of them.

DDG 51 COMBAT SYSTEM MAJOR CHARACTERISTICS

Combat system.—Distributed architecture; DDG communication suite; [deleted] cells VLS; centralized EMCON; TACAN, IFF, SATNAV.

AAW.—Spy-1D AAW radar; MK 99 illuminators (3); SM-2 blk II (MR); MK 15 CIWS (2); SLQ-32 (V-2), SRBOC.

ASU/STW.—CWCS, TLAM, TASM; cannister launch harpoon (8); MK 45 5" 54 gun; Seafire/Sal G.P. (TBD); SPS-67.

ASW.—SQS-53 sonar; CASOW; MK 32 OTS torpedo MT (2); LAMPS MK III/ASWAC processing; SQG-19 TACTAS.

Admiral WALTERS. If we go not to the combat systems these are the kinds of things the Secretary told you. I need to mention the fact that when the Secretary wrote you we were still in the conceptual design stage. I think you are familiar with the Aegis-type radar, all the weapons and vertical launch systems. Throw the overlay on and it will show you what we have not done that the Secretary referred to. Two of the issues that will be discussed I am sure during many of the hearings this year involve two of the

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things that are not checked there. One has to do with the Seafire and the guided projectile. There are requirements for these capabilities from the operators' point of view, but we had problems with the contractor in being able to produce an affordable round. Thus, for now, the production of guided projectiles is stopped, but the development is complete, including a very successful OPEVAL.

It is a producibility problem now.

In the standoff weapon area, the Secretary told you we would have vertical launch ASROC. We are now looking at a vertical launched common ASW weapon which will be used on both submarines and surface ships.

This is an artist's concept of the ship. I will give you the copy out of my notebook so you may look at it more carefully when I finish. But I think this picture is worth a thousand words. This is a destroyer! If you look carefully you can see the features which reduce the radar signature. It is a very potent combatant. It has about three-fourths of the capability of the Aegis cruiser and it is going to cost about 80 percent of the Aegis cruiser.

So, we do have different kinds of ships here. DDG-51 is designed very much for the future with growth in it, whereas in the cruiser we have used up the growth of the hull we used.

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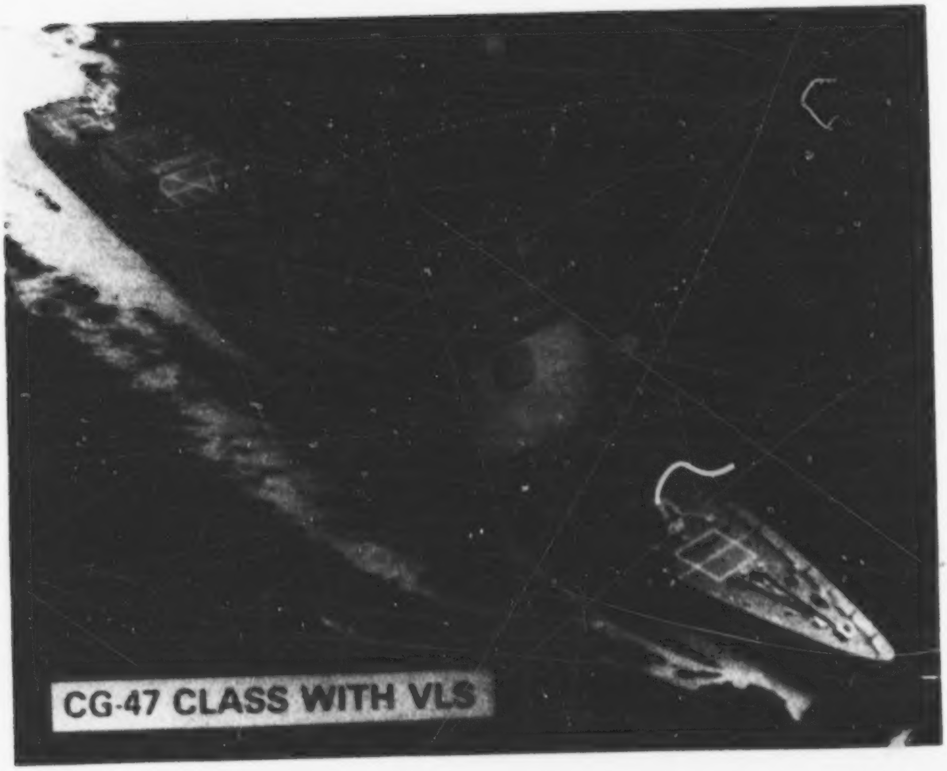

CG-47 CLASS WITH VLS

The next slide shows the cruiser. You can see the contrast between the cruiser and the destroyer. There is about a 1,000-ton difference in displacement. Missile launch capability in this ship is more than the DDG; but we need more in the CG and designed the DDG as tightly as we could for the future, in order to be able to afford the greater numbers. Capability is more important than dollars, but the DDG-51 is about 25 percent less costly than the cruiser; then you can afford to buy more. If you go to the next slide it will show you the differences betwen DDG-51 and CG-47. As I said, DDG-51 is not a little less capability. Fewer eliminators. The radars only have one transmitter instead of two, so three is a little less redundancy. It has about [deleted] fewer missiles in it but still has the [deleted] missiles. That is a lot of missiles for a destroyer. It can handle helicopters but can't maintain or hangar them. It has one gun versus two and uses a different combat system architecture [CSA]. We have used a centralized CSA in the CG-47 and are now going to a federated system in DDG-51. There is still centralized command and control, but the various weapon control systems can operate independently without a centralized control system, rather than having to be operated under the control of one man with an operational single command and decision position.

DDG 51 AS COMPARED TO CG 47

Equipments/systems evolved from current inventory.—AAW: Fewer illuminators; smaller radar; and fewer missiles.

ASW Helo deck vice embarked unit: six vice 48 torpedoes.

ASU/Strike: 1 gun vice 2 guns; larger strike MSL Loadout.

Federated vice centralized CSA.
Battle group participant vice control.
No staff accommodations.
Lower cost (729M versus 1,024M fiscal year 1983 dollars).
Weighs less (8,500T versus 9,500T)
Less manning (304 versus 342).

Admiral **Walters**. We are distributing the architecture of the weapon control system so that it is more redundant and survivable. We are not going to have all the computers in one place. We are going to have a spare computer for the major computer complex. Thus, instead of trying to build a redundant program in software, which costs millions of dollars in computer programing, we will have a spare computer. When a casualty occurs it will pick up the load from the damaged computer rather than having to employ a whole new software program for casualty control. Computer hardware is cheaper than the software to do all this sort of thing. We are doing that. We are providing redundant communication or data transmission paths in the ship. We are providing weapons modules in the ship so they can be pulled out. There are two A modules and one B module. If given time, I could explain the differences of those. We are employing the ship data multiplexing system in DDG-51 for external communications. We are looking at trying to do it for internal communications. Data busing is the only area we would like to be able to do more, but we don't know how to do that. I am talking about technology involving data busing massive computer information back and forth between tactical computers. It is not like putting a data bus at Bell Telephone where the caller can get who he is calling. We are talking about tremendous bursts of different forms of information in microseconds. We haven't figured out entirely how to do that. That is the next step we must go to get a modular capability in fire control systems and to have even more redundancy than we have now.

CONGRESSIONAL INTEREST TOPICS

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● SEAFIRE/GP REMAINS DESIGN BUDGETED WITHIN DDG 51
● REPLACEMENT FOR GUNFIRE CONTROL SYSTEM TBD</td></tr>
<tr><td colspan="2">DESIRED BUT UNAFFORDABLE</td></tr>
<tr><td>VLA</td><td></td></tr>
<tr><td>● PROGRAM TERMINATED</td><td>● DIFFERENT PERCEPTION OF CONGRESSIONAL DIRECTION</td></tr>
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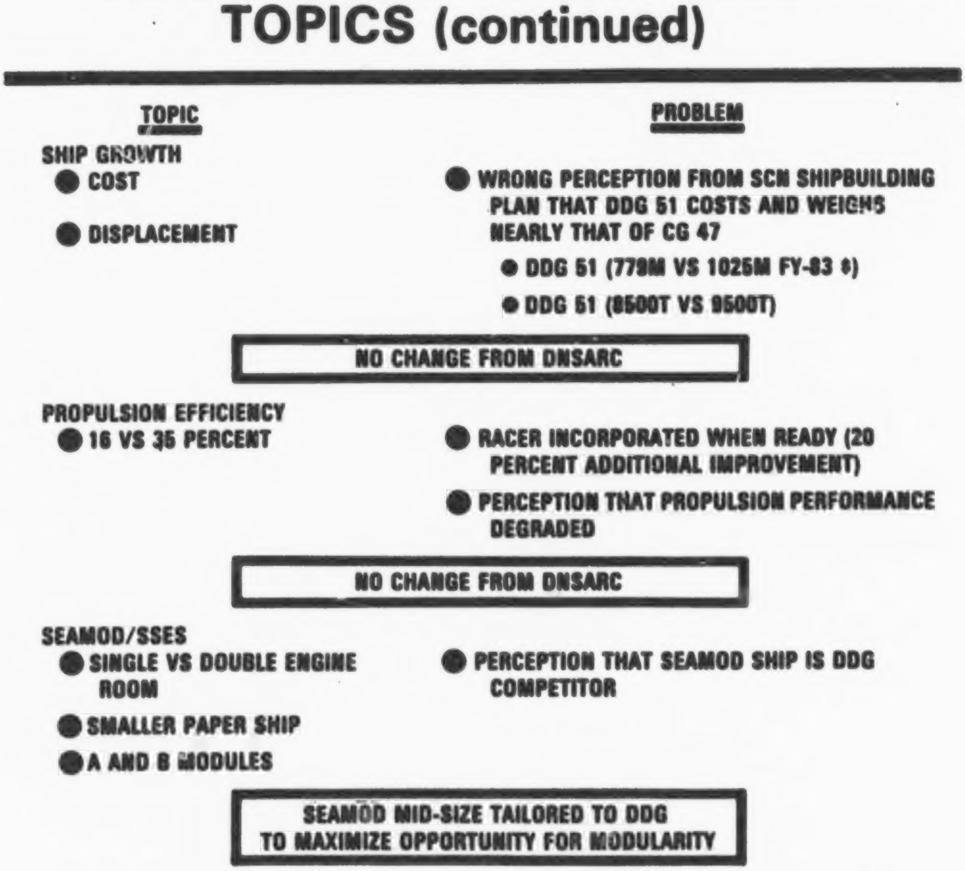
There are some issues here. I think I have talked about the Seafire and guided projectile. We have a requirement from the operational elements of the fleet. If we are going to have guns in ships, and none of us believe we should do away with guns, they ought to be as effective as we can make them with modern technology. But, the contracting problem we have had with the producibility of those systems and the experience that we see the Army is having with their projectile manufactured by the same company, makes us leery about the cost. We are not sure we can afford it. Vertical-launched ASROC was in the Secretary's letter. Again, we had two development programs. A vertical-launched ASROC would permit the weapon which is in ships now to be extended in range and also to be able to carry the increased payloads, represented by the advanced lightweight torpedo, and be vertically launched. The Navy had another program for the submarine force which also required a standoff weapon. It turns out that if you take the cost of these two programs, life cycle costs, you would probably come out even. But how do you afford two R. & D. programs when we are having to cut back on R. & D. to meet outlay reductions? There are a lot of common things about ASW weapons, submarines, and surface ships. We are going to actively pursue a program to get the best that a common approach offers. We are doing that now. The timeframe, as a matter of fact, for the common program or a vertical launch ASROC, is about the same. We intend to put the SQS-53C sonar in this class of ship. There is a question as to whether or not the 53C can go in the lead DDG-51.

As you recall, last year we had $25.5 million taken out of the DDG-51 line that was devoted to the development of this lightweight sonar. We are trying to restructure a program to meet the lead ship schedule but I am not sure we can. If we cannot, an SQS-53B sonar will go into the lead ship and we will use up some of the growth margin until we backfit the lighter weight improvements in the SPS-53C.



CONGRESSIONAL INTEREST TOPICS (continued)

TOPIC	PROBLEM
SHIP GROWTH ● COST ● DISPLACEMENT	● WRONG PERCEPTION FROM SCN SHIPBUILDING PLAN THAT DDG 51 COSTS AND WEIGHS NEARLY THAT OF CG 47 ● DDG 51 (779M VS 1025M FY-83 $) ● DDG 51 (8500T VS 9500T)
NO CHANGE FROM DNSARC	
PROPULSION EFFICIENCY ● 16 VS 35 PERCENT	● RACER INCORPORATED WHEN READY (20 PERCENT ADDITIONAL IMPROVEMENT) ● PERCEPTION THAT PROPULSION PERFORMANCE DEGRADED
NO CHANGE FROM DNSARC	
SEAMOD/SSES ● SINGLE VS DOUBLE ENGINE ROOM ● SMALLER PAPER SHIP ● A AND B MODULES	● PERCEPTION THAT SEAMOD SHIP IS DDG COMPETITOR
SEAMOD MID-SIZE TAILORED TO DDG TO MAXIMIZE OPPORTUNITY FOR MODULARITY	

Ship growth in cost and displacement. There has been a perception in the Congress that we have been designing the DDG-51 to cost or to size. We have, I can assure you, designed this ship to capability. We have been mindful of cost and size, because size drives costs. When you build something bigger, people will put more into it. The CNO has been a very tough taskmaster on all of us on cost and size because we must build this ship in numbers to replace destroyers going out of commission. We have held that displacement of the ship at 8,500 tons, is full load at delivery, with all the margins included. The cost of the ship is still running about 80 percent of the cruiser. We proposed a goal of 35 percent proposed improvement in propulsion efficiency. We have been looking at Racer, which is the Rankin energy recovery cycle. We have considered electric propulsion, electric cross connection, and gas turbine efficiency improvements. We have looked at all of these things and tried them out to see what we cam get into the ship efficiently. We have parallel development for both electric propulsion and Racer, and other programs that will improve the efficiency of shipboard gas turbines. Not all of these developments will come to fruition in time for the lead ship. Should we not build the lead ship because we are waiting for all those things? We could make that decision every year. There will always be something just over the horizon. My feeling is, and the CNO has supported this position, that we must build the ship with the most reliable things we know to put in it today. We will build the ship with sufficient margin so that when we see better things we can put them in.

There are not too many times we have built 30, or 40, or 50 ships that have been identical as designed the day they started. Finally SSES. From an operators' point of view this makes a lot of sense because we do modernize ships, upgrade electronics and weapons systems. We know how to do weapons modules today and we are doing that. What we know how to do today in data bussing we are doing. Our objectives are to keep pushing SSES and get as much from R. & D. that we can. This schedule shows the parallel developments. Racer is fully funded in separate R. & D., but it is important that it be evaluated at a land-based testsite and then taken to sea before we commit this to a new class of ships.

You can make mistakes in combat systems. If they are topside you can pull them off and fix them. When you make a mistake in the basic propulsion plant in a class of ship, you have made a mistake that can't be rectified easily and it ties up the entire ship.

We have taken a conservative approach in the propulsion plant. The SQS-53C is tight. But we have a backup for that. The SPY 1-D is the principal radar; there is no problem getting it into the ship. ASW standoff weapon, as would be the case with the vertical launched ASROC, is going to be there in time for the followup ships but will be late for the lead ship. It wouldn't have made much difference which way we went. We couldn't have had the vertical launch capability in an ASW weapon in time to meet the lead ship of the DDG-51 class.

I think that gives you an overview and brings up some of the issues that I know have been bothering this committee and other committees of the Congress and gives you a perception of each issue. I think we have designed a very good ship.

Mr. BENNETT. Do you think it is wise to go ahead with the construction of the ship when you have so many uncertainties?

Admiral WALTERS. The things we have chosen to put into the ship Mr. Chairman, are not uncertain. We have chosen those components we understand and know how to do and we are doing those.

Mr. BENNETT. These are just improvements you hope will be made?

Admiral WALTERS. Yes, sir.

Mr. BENNETT. All right. Mr. Dougherty.

Mr. DOUGHERTY. Thank you, Mr. Chairman.

If I could, let me go back to some of my other questioning. Would you provide for me the answer to the following questions: Is the U.S. Merchant Marine capable of carrying on the followup echelons of a Marine Amphibious Force and if not, what are you doing to take care of that problem?

Second, I would like from you in writing a response to your plans for the LSD-28 and LPH and the overall slipping. LKS's, LPH's and LSD-41's.

[Information to be supplied.]

Mr. DOUGHERTY. On the Tridents am I correct Electric Boat is the only yard building the Trident?

Admiral WALTERS. That is correct, yes, sir.

Mr. DOUGHERTY. Are there nine additional Tridents currently in some stage of construction?

Admiral FOWLER. We have contracted for nine. One has been delivered already.

Mr. DOUGHERTY. Electric Boat is working on eight at the present time?

Admiral FOWLER. Yes, sir.

Mr. DOUGHERTY. So, it is conceivable Electric Boat would have as many as two, three or four Tridents being constructed in their yard at the same time?

Admiral FOWLER. Well, they have eight.

Mr. DOUGHERTY. Now another Trident. I have strong reservations based on the testimony last year by Electric Boat authorizing two Tridents when the yard had such difficulty and the whole mess with bad steel, poor workmanship, and everything else. I really question, Mr. Chairman, whether or not we should allow, if they have 8 under construction now, we give them 2 more, which means 10 under construction, all those problems with $100 million in overruns which Mr. Veliotis was trying to pass off on the Navy.

Mr. BENNETT. Hadn't he agreed not to?

Mr. DOUGHERTY. He says he has not. What is the final settlement on the Trident program? How did we wind up with Electric Boat?

Admiral FOWLER. We have settled all of our contract problems. In the modifications of the ongoing SSN-688 and Trident contracts in the last few months, modifications that took care of changes and the award of the ninth Trident and the latest SSN-688 contracts on February 11, we have now taken care of all our contractual problems. The contracts are now current. There are no outstanding changes. We have settled the insurance.

[The following information was received for the record:]

We have behind us substantially all our contract problems with Electric Boat and our contracts are essentially current. Modifications have been executed resolving just about all outstanding changes under the SSN-688 and Trident contracts; contracts have been awarded for the ninth Trident and the latest SSN-688 ship; and the insurance reimbursement request has been withdrawn permanently.

Mr. DOUGHERTY. How much has it cost the Navy?

Admiral **Fowler**. This is all within what our budget with the exception of the slip in the Trident dates which I testified on last year which——

Mr. **Dougherty**. The dates don't bother me at the moment.

Admiral **Fowler**. When you slip those ships out, the extension of the dates caused the escalation to go up on the work. Not the work, but when you slid so many ships out in a longer period of time, the escalation of that work went up and in addition there was some one time or fixed costs that went up with the Tridents. The total—$330 million, $130 million of that being increased escalation.

Mr. **Dougherty**. So the U.S. Navy paid for the lousy paint jobs, poor steel and bad workmanship that was done on the Tridents? The Electric Boat tried to pass off the fact that you were the insuror for them on the construction of these submarines. Therefore, you were going to pay $107 million for the mistakes that were made. I guess I am asking you Admiral, did we pay Electric Boat anything for the fact of the paint that was done and had to be done over and bad steel that was put in. Did you pay Electric Boat anything on the claims they placed against you, quote, "As their insuror"?

Admiral **Fowler**. We paid them nothing on the claims that—the proper word is not claims but insurance reimbursement request we paid them nothing. We told them that their request had no merit basically in a contracting officer's decision, and then late both parties agreed to drop it. Now, for the rework that was done they collected under the contract which has a sliding share line. They are over target costs slightly on the Tridents. The early Tridents had an 85-15 share line, so the U.S. Navy picked up 85 percent of every dollar that was spent.

Mr. **Dougherty**. So, you are saying in effect that they used inferior steel and the steel had to be replaced, so you didn't pay to buy the new steel but paid 85 percent of the cost of the salaries of the men who took out the bad steel and replaced it?

Admiral **Fowler**. That is correct.

Mr. **Dougherty**. I have more questions Mr. Chairman.

Mr. **Bennett**. Your time has expired. Mr. McDonald.

Mr. **McDonald**. I will be glad to yield to the gentleman. Go ahead.

Mr. **Dougherty**. I think that is another thing we ought to look at Mr. Chairman, because I think the subcommittee had very extensive hearings on the whole Trident overruns. I was not satisfied. I think no one on the committee was satisfied with the claims that were being made by Electric Boat.

Now, to come in and ask us to give Electric Boat two Tridents this year in view of all the bad things that happened last year, I just think I cannot support it.

Mr. **Bennett**. There is a problem, we need the Trident submarines. They think they have wiped out those problems we had last year. You know it was not altogether the Tridents, it was not altogether Electric Boat. There was a little bit of mud in everybody's face. Nobody is perfect. They have assured the committee that they have got all those imperfections taken care of. You can't just hold up out of spite the fact that you don't like what happened.

Mr. **Dougherty**. It is not spite.

Mr. **Bennett.** What are you going to correct by not giving the Trident submarine?

Mr. **Dougherty.** I think we have to have Electric Boat show us they can do the job a lot better than they did.

Mr. **Bennett.** Oh, I think the Navy feels that is correct. I think the Navy is strong not only about the feeling that they can do the job but that they are the only people who can. Nobody else can.

Admiral **Walters.** That is correct, sir. They are the only yard that can. The major reason for doing this is the decision to upgrade our capability. The Trident represents the most survivable unit in the Triad.

Mr. **Dougherty.** May I ask a couple of brief questions, Mr. Chairman?

Mr. **Bennett.** OK.

Mr. **Dougherty.** Is there a requirement that the hospital ship you are considering buying that they be U.S. built and that they be converted in U.S. yards? Is that a part of the specifications you put out on hospital ships?

Admiral **Walters.** That they be converted in U.S. yards, I am sure. But I do not know about the——

Admiral **Fowler.** The contract will comply with the statutory limitations.

[The following information was received for the record:]

The statutory limitations of the acquisition of all or part of United States naval vessels includes the Byrnes and Tollefson Amendments to the Department of Defense (DOD) Appropriations Act, the Buy American Act, the International Security Assistance and Arms Export Control Act, and the Atomic Energy Act of 1954.

The most significant restrictions on foreign procurement are the Byrnes and Tollefson Amendments. Byrnes-Tollefson prohibits the use of any Shipbuilding and Conversion-Navy (SCN) funds for the construction of a naval vessel or the purchase of major components in a foreign shipyard. The amendments have been included in every DOD Appropriations Act since their initial appearance.

Mr. **Dougherty.** My problem with that Admiral, we will talk about it when you are testifying in your capacity as—the memorandum of understanding with other nations where we wind up buying foreign stuff and putting it on our ships. I would like Mr. Chairman, if the staff would prepare an amendment to the bill that require on the hospital ships certainly that they be U.S.-built and that they be overhauled in U.S. yards.

I was advised, I do not know how much information you have on this, but I was advised the Soviets are using the *Soyuz* space shuttles as a means to develop a system where they can track U.S. naval vessels at sea. Is that hearsay or is that true?

Admiral **Walters.** *Soyuz* specifically I can't address, but the Soviets do have such systems. The Soviets have systems that are designed to detect all kinds of things, the same as we do. They have systems that will detect electronic emissions, and they have photo satellites. But as to their specific capability against specific ships, we can only speculate.

Mr. **Dougherty.** Are you working on any kind of a project that would in some way deny the ability of the Soviets to track every American ship at sea through a space based system, be it *Soyuz* or something else?

Admiral **Walters.** We have programs that are designed specifically to counter Soviet space intelligence. For example, in the design of the DDG-51 I showed you a moment ago, a close look reveals that it has slanted bulkheads. That is designed to reduce the radar cross section. We are very aware of this now. We know the periodicity of their satellites and take them into consideration when we are operating at sea. We know when we are under surveillance and we can take action to reduce our radiations or to take other evasion.

Mr. DOUGHERTY. At some point——

Admiral WALTERS. A very real problem.

Mr. DOUGHERTY. OK.

Mr. BENNETT. Now the question is whether we should come back now or not. That depends on how many more questions you all have to ask. I will come back if you want me to come back. Or you could submit questions for the record.

Mr. DOUGHERTY. Let me ask one for the record, Mr. Chairman. I contacted Admiral Hayward in November 1981 concerning three *Des Moines*-class cruisers apparently in mothballs in Philadelphia. They have an average life use at sea of 6 years. I want to know whether or not the Navy has any plans on bringing those three cruisers back and if and when they would be used. That is the only other question.

Mr. BENNETT. I will let the record be open for questions and for questions from the staff.

[The following information was received for the record:]

CRUISER REACTIVATION

The Navy was directed by the report of the House Appropriations Committee on the fiscal year 1982 Department of Defense Appropriation Act to perform survey inspections and cost estimating work associated with the possible reactivation of two inactive cruisers, *Des Moines* (CA 134) and *Salem* (CA 139). (The third cruiser, *Newport News* (CA 148), has been stricken from the Naval Register and is not a candidate for reactivation.) A Draft Technical Feasibility Study will be completed in April 1982 and preliminary cost estimates are expected by August 1982. Based on this information, the Navy will determine whether reactivation and modernization of the cruisers represents a useful investment.

Mr. BENNETT. I think we can adjourn for the day.

This concludes our hearing. There may be some questions asked you for the record.

[Whereupon at 12:47 p.m. the subcommittee adjourned subject to the call of the Chair.]

NAVY STRATEGIC MOBILITY PROGRAMS

House of Representatives,
Committee on Armed Services,
Joint Session of the Seapower and Strategic and
Critical Materials and Readiness Subcommittees,
Washington, D.C., Wednesday, March 10, 1982.

The subcommittees met, pursuant to notice, at 10 a.m., in room 2118, Rayburn House Office Building, Hon. Charles E. Bennett (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. CHARLES E. BENNETT, A REPRESENTATIVE FROM FLORIDA, CHAIRMAN, SEAPOWER AND STRATEGIC AND CRITICAL MATERIALS SUBCOMMITTEE

Mr. Bennett. This morning is a continuation of the hearings on the fiscal year 1983 defense authorization request. The hearing, a joint hearing of the Seapower and Readiness Subcommittees, will follow up on our joint hearing last year into the ship overhaul process. A number of problems were identified during the hearings last year including cost overruns, late completion of overhauls and poor quality work. Today we will receive a report of the actions taken to correct those problems and the results of those actions.

We will also hear testimony on the fleet modernization program. This program provides for the purchase and installation of improved weapons and sensors on existing ships, as well as upgrading the safety, reliability, and maintainability of these ships. The funds for the program come from operation and maintenance for installation costs, and procurement funds, for purchase of the components installed.

Third, we will hear testimony on the proposed acquisition of the TAKX maritime pre-positioning ship. You may recall that initially the Navy proposed to purchase these vessels, but that in the October 1981 budget revision the proposal was changed to a leasing arrangement. Because the Navy was not able to provide an adequate description of the costs of the proposed leasing program, leasing was not authorized for fiscal year 1982. The fiscal year 1983 budget again includes funds for leasing these ships and no funds for their purchase.

I must say that I remain skeptical and that I had not seen any data that would demonstrate that leasing of these ships is cost effective.

One thing that concerns me about it is the tax arrangement which would be available to anybody who went into the leasing situation. Really we ought to have a real analysis of whether or not the Government is going to be losing more money or paying out more money under one procedure than the other. I am not at all convinced that the leasing is cost effective or cheaper. I am open-minded.

Our witnesses this morning are the Honorable George Sawyer, Assistant Secretary of the Navy for Shipbuilding and Logistics, and Vice Adm. Earl B. Fowler, commander, Naval Sea Systems Command.

Gentlemen, it is a pleasure to have you with us.

Before we start, I want to point out to the members of the committee that the staff followed the committee procedures in setting up the seating arrangements today, just in case any of you were wondering about the arrangement.

I would also note that a former member of the committee staff, Mr. George Norris, was a participant in a panel convened by the Navy to make recommendations on the ship overhaul and maintenance process. I understand that the recommendations of the panel have been incorporated into the Navy's overhaul program that we will be hearing about this morning.

Secretary Sawyer will be addressing the lease versus buy decision on the TAKX maritime pre-positioning ship.

As a result of the late delivery of Secretary Sawyer's statement, the committee was deprived of the opportunity to study this complex matter before our hearings today. I would expect that this will not occur again.

I know the delay was not intended, but it does help to get the material in advance that the committee rules require, particularly on such a complicated matter.

Mr. Daniel, do you wish to make a statement?

STATEMENT OF HON. DAN DANIEL, A REPRESENTATIVE FROM VIRGINIA, CHAIRMAN, READINESS SUBCOMMITTEE

Mr. DAN DANIEL. Yes, Mr. Chairman.

This is the second year our two subcommittees have met jointly to receive testimony on matters of mutual interest and I hope this practice will continue in the years ahead. Not only do these sessions conserve our most important asset, time, but they promote a cross-fertilization of ideas and knowledge that we have found tremendously helpful.

Mr. Bennett, at this time I want to express my personal appreciation to you for your understanding and tolerance of this junior committee. I do believe it is important that we work together in these areas, and you have been most cooperative, and I am indeed grateful.

It would be difficult to overstate the importance of the issues to be discussed this morning from either a readiness or budgetary standpoint. The Navy ship overhaul and modernization accounts involve the proposed expenditure of over $5 billion in fiscal year 1983. Together they will determine the availability and battleworthiness of the fleet for years to come. So it is vital that these programs be managed well and the enormous resources associated with them carefully spent.

Regrettably, congressional and public confidence in the Navy's ability to do that has been shaken in recent years by serious allegations of mismanagement, poor coordination, and shoddy work. That is why we look forward to Admiral Fowler's testimony on recent Navy initiatives to improve the management and performance in these two programs.

I might say, Admiral, I have been impressed with the initiatives that have come to my attention in recent weeks.

I would also like to echo Mr. Bennett's skepticism about the Navy proposed leasing and conversion of TAKX maritime pre-positioning ships. As yet we do not know if such an approach is feasible. We do not know whether it is cost effective, either from the standpoint of the Department of Defense or Governmentwide. We do not know any of the details of the proposed leasing arrangements and have not received adequate data to justify this program.

About all we can be sure of is that if we authorize appropriations for this program, we will be embarking on a 25-year program costing over $2 billion that is very likely to become another uncontrollable cost in the Navy O. & M. account.

These unknowns and fears were behind the committee's decision not to authorize appropriations for this program in last year's request. Unless they can be dispelled by the testimony we receive today, it is difficult to see why that judgment should be reversed.

Secretary Sawyer, we are earnestly looking for answers and we hope you can provide them.

Thank you very much, Mr. Chairman.

Mr. **Bennett**. Thank you. I appreciate your cooperation and the cooperation of your committee working with us.

Mr. Whitehurst, do you wish to make a statement?

STATEMENT OF HON. G. WILLIAM WHITEHURST, A REPRESENTATIVE FROM VIRGINIA

Mr. **Whitehurst**. Thank you, Mr. Bennett. I share Mr. Daniel's sentiments about the benefits flowing from these joint hearings and hope they are the start of an enduring tradition.

Admiral Fowler, you have a real challenge before you in restoring confidence in the Navy ship overhaul and modernization program.

As you recall, last year was not a particularly happy one for the Navy in that regard. The joint hearings we held in April were overshadowed by shocking revelations of poor performance and revealed more problems than solutions. Representatives from the shipbuilding industry and private yards voiced numerous complaints about the Navy's failure to provide timely data on planned overhauls and overuse of change orders. Emerging from this record was a disquieting pattern of inadequate cooperation between the Navy and the private shipyards, coupled with decentralized management and contracting procedures clearly not up to the task at hand. Candidly, Admiral, many of these doubts remain.

The Navy's response at that time was that it was aware of these problems, that new initiatives were being formulated to address them and would be presented as part of the fiscal year 1983 budget request.

So we are here this morning to learn what actions the Navy has initiated to address its overhaul problems and answer three basic questions.

First, how does the Navy plan to build and support a 600-ship Navy and preserve a high state of fleet readiness?

Second, what does the Navy propose to improve its use and integration of the private yards into this total program?

Finally, what performance indicators do we look for to grade your report card in the years ahead?

As I said at the beginning of my remarks, Admiral, you have a serious challenge. At stake is the integrity and future success of the Navy ship overhaul and modernization programs. I hope and I believe you will stand the test and we look forward to your testimony.

Mr. BENNETT. Mr. Spence, would you like to make a statement at this time?

STATEMENT OF HON. FLOYD SPENCE, A REPRESENTATIVE FROM SOUTH CAROLINA

Mr. SPENCE. Yes, a short statement.

I concur with the comments made by my distinguished colleagues regarding their concerns with the Navy's ship maintenance and modernization process, and leasing versus procurement of the TAKX maritime pre-positioning ships.

I am particularly interested in a revitalized shipbuilding industrial base. As the Navy moves to more complex ships and weapons systems, the capacity for the public yards to do most of the overhaul and repair work will diminish. The private shipbuilding sector will have to take on added responsibilities in this regard which probably means major capital investments and increased requirements for skilled labor.

I believe that it is essential for the Navy and the private sector to recognize this trend and to implement the kinds of initiatives necessary to insure that the shipbuilding industrial base will be strengthened to meet the higher demands that improved maintenance and overhaul procedures portends.

I look forward to hearing this morning what course the Navy has taken since last year to address the weaknesses of the maintenance and overhaul process as it existed at that time.

Thank you, Mr. Chairman.

Mr. BENNETT. Secretary Sawyer, you may proceed.

BIOGRAPHICAL SKETCH OF HON. GEORGE A. SAWYER

On 19 May 1981, President Reagan announced the selection of George A. Sawyer to be the Assistant Secretary of the Navy for Shipbuilding and Logistics. He was confirmed by the Senate on 16 June 1981 and took the oath of office on 23 June 1981.

Mr. Sawyer is a 1953 graduate of Yale University and has been associated with major marine, engineering and construction projects for many years.

While serving with the U.S. Navy, Mr. Sawyer was an early participant in the nuclear submarine program, including the prototype development and initial service operation of the first multi-nuclear propulsion installation.

In 1963 Mr. Sawyer joined Babcock & Wilcox as Nuclear Power Coordinator—Marine Projects, where he was involved in the development and application of the NS *Savannah* and other nuclear ship projects. He is a co-inventor of the Consolidated Nuclear Steam Generator. He subsequently held the position of Manager, Marine Systems with NUS Corporation and Batelle Memorial Institute.

In 1969 he joined Bechtel Incorporated as Manager of Environmental Systems and held a number of management positions with that Company. His last position was as Manager of Eastern Operations and Vice President of International Bechtel, Inc., responsible for Bechtel's port and other major transportation projects in the Middle East.

Mr. Sawyer served as President and Chief Executive Officer of John J. McMullen Associates, Inc., from September 1976 to April 1981.

He is the author of several technical papers. He is a member of the American Society of Naval Engineers and the Society of Naval Architects and Marine Engineers, and is on the Committee on Nuclear Applications of the American Bureau of Shipping. Mr. Sawyer also served on the Board of Directors of the Shipbuilders Council of America.

He was born on 20 April 1931, in New York. He and two of his three children currently reside in Red Bank, New Jersey.

STATEMENT OF HON. GEORGE A. SAWYER, ASSISTANT SECRETARY FOR SHIPBUILDING AND LOGISTICS, DEPARTMENT OF THE NAVY

Mr. **Sawyer**. Thank you very much, Mr. Chairman. I apologize for the lateness of the submission of my prepared testimony and assure you it will not happen again.

I would like to take this opportunity to introduce that testimony for the record, with your permission.

Mr. **Bennett**. So ordered.

Mr. **Sawyer**. I would like to use this period to put into perspective the TAKX program as it relates to our overall program on strategic mobility. This is a very important subject. It is one that directly affects both of your Subcommittees on Readiness and Seapower. It is also one that has been evolving quite strongly and rapidly since the period of 1979 with problems in Southwest Asia, Afghanistan, and Iran.

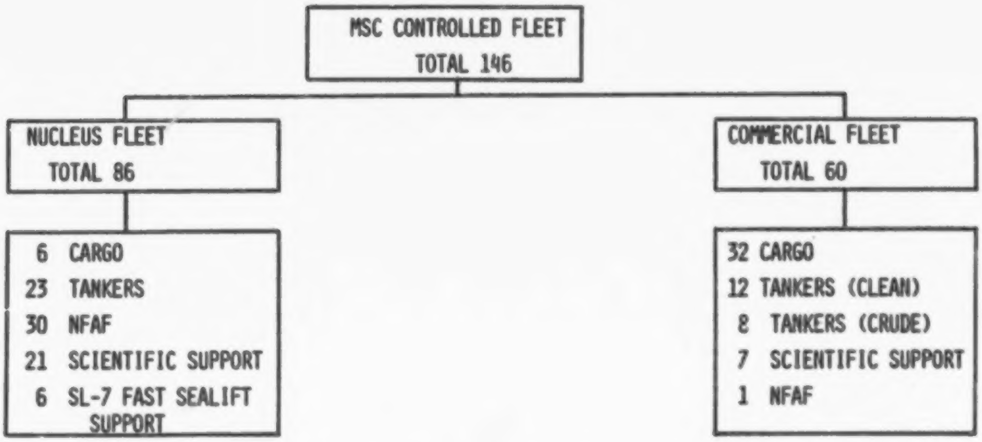
I am pleased to state that we in the Navy feel we now have a program which is an integrated collection of several different programs, each of which addresses a specific element of the current shortfall in sealift.

These programs have marked a real and dramatic change in our deployment planning and offer a marked change in our approach to acquisition and utilization of the various assets involved.

Now, in view of the rapidly evolving nature of the programs there has been considerable confusion over one or more of the elements. I hope this brief presentation today will help to better define both our objectives and our approach.

At the outset, I would like to emphasize when we refer to sealift or strategic mobility support, we are referring to administrative sealift, that is cargoes, both dry and liquid bulk, which do not move under assault conditions or in direct combat support. Historically this has been the province of the U.S. flag merchant marine, which serves in both peace and war as our naval auxiliary.

Sealift management within the Department of Defense devolves to the Military Sealift Command, an arm of the Navy. It performs a dual function, both support to all the services and to the Joint Chiefs in logistics mobility, and supporting to the war plans, and second in direct support to the Navy.



This figure shows the basic split in the current Military Sealift Command fleet between the nucleus fleet of owned ships, primarily those oriented to servicing unique roles—that is, Navy unique functions in direct support of the fleet—and the commercial fleet which consists of ships under charter, primarily being used in the sealift area.

I think it is pertinent to inquire into the recently changed dimension and focus in strategic mobility, specifically, our interest as the Navy.

I would state that during the fifties and sixties the interests of the Navy in sealift could be best characterized as ranging from boredom to apathy. Recently our Chief of Naval Operations has said that without adequate and reliable sealift none of our military plans are executable.

Thus, there has been a dramatic change over time.

First, we must understand that regardless of the location of a conflict, assuming that it is overseas, over 80 percent of all wartime cargo must move by sea. In the 1973 Arab-Israeli war, where we embarked on a dramatic airlift of cargoes from the United States directly to the Mideast. After this dramatic lift was over, we ran through the numbers and it was determined that 6 tons of fuel were consumed for every ton of cargo delivered on scene in Tel Aviv.

A single mechanized division weighs about 100,000 tons, including its combat support and its service support for about a 30-day period. To airlift this whole force to Southwest Asia would require our entire inventory of airlift, including commercial assets, over a period of 5 weeks, and everything else would have to come to a stop.

I would explain our past apathy and our sudden interest in the problem as being caused by the fact that since World War II we have had a strong, albeit steadily declining, merchant marine. Moreover, with few exceptions, and certainly in the last decade, our focus has been primarily on a short European centered war. This allowed us to concentrate in terms of logistics support on prepositioning and rapid airlift, followed by, as necessary in terms of sustainability, the large 400 committed vessels by our NATO allies.

I think recent events in Southwest Asia aborted our pure NATO-centered thinking with regard to strategic sealift.

Moreover, our merchant fleet has steadily deteriorated in size and quality since World War II.

In 1952, in Korea, we used about 400 dry cargo ships in support of the military operations there. It represented about 17 percent of the total available U.S. cargo fleet. That includes both the Active fleet and what is called the NDRF, the National Defense Reserve Fleet.

MSC SEALIFT CONTROLLED SHIPS, WORLDWIDE

[1967 (RVN) versus 1982]

	1967	1982
USNS:		
Dry cargo	91	6
Tankers	26	23
NDRF	166	0
Charter:		
Dry Cargo	172	24
Tankers:		
(Dirty)	14	8
(Clean)	42	12
Total	511	73

Note: 104 tankers under MSC control in 1969, 158 ships in ammo pipeline in 1968.

In 1967, the height of Vietnam, about 420 dry cargo ships were used. Now, this represented about an average of 36 percent of the U.S. available fleet cargo.

Today, we have analyzed, that should a similar occurrence break out in Korea, we would require 350 ships. The ships have gotten larger. But this would represent over 75 percent of the total U.S. fleet.

Now, not only have our ships available been declining in numbers, but also their utility for maritime service.

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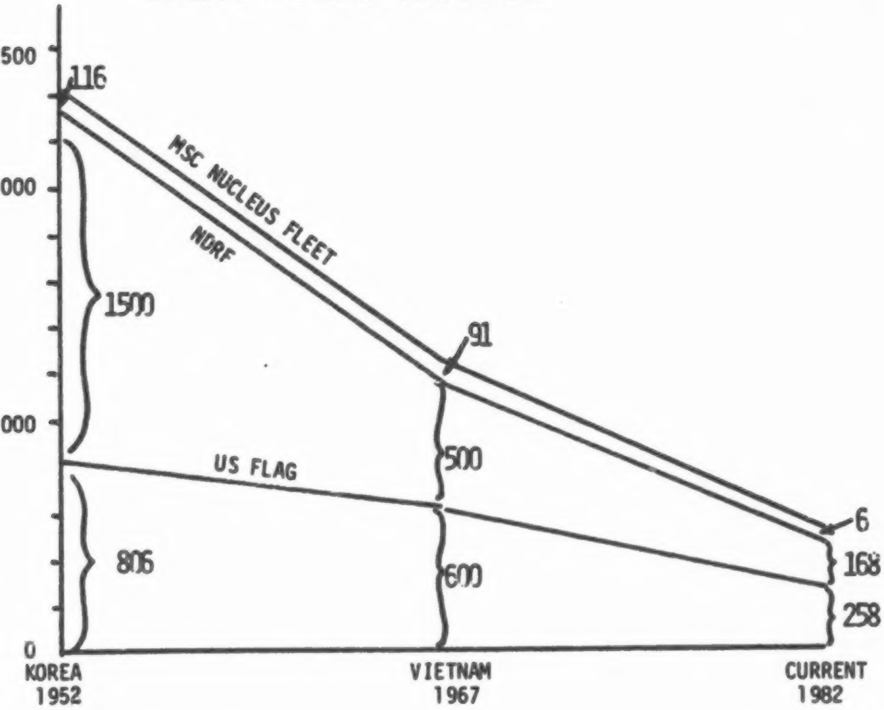
U.S. DRY CARGO SHIP RESOURCES

(NUMBER OF MILITARILY USEFUL HULLS)



Current configurations—this graphs shows what I call prior configuration of break-bulk cargo ships, showing self-sustaining cargo handling capability. These vessels have diminished in numbers. And the newer concept of commercial operations is based on the non-self-sustaining container ship.

The ship in this side is the Sealand SL-7, the ships we would like to convert. You see there is no cargo-handling capability on that ship. All of the cargo moves strictly as containers, and the containers are rapidly handled at improved ports where there are special container handling facilities available. Unfortunately we don't always fight wars with improved ports with special container handling equipment.

Our NDRF, the Reserve fleet we were talking about, is now down to 170 ships, 130 of those are tired, old Victorys and Libertys, from World War II—over 40 years of age.

What I just described to you in terms of the dry cargo vessels can also be duplicated in clean oil product tankers of the type we wish to use for our POL shipments.

Without a strong, healthy merchant marine and a relatively modern Reserve fleet we have looked to other alternatives. For the first time since before World War II we have begun to acquire commercial-type assets to fulfill wartime contingency requirements.

I would like to describe now some of the elements of our program.

First are the maritime pre-positioning programs, whose objective is to provide an alternative to land-based pre-positioning when political constraints or need for flexibility dictate. Basic application, of course, is in Southwest Asia.

The first element of this program is our Near-Term Pre-Positioning Force. These are the ships that we currently have at Diego Garcia in the Indian Ocean. These are basically loaded out to support unit equipment and supplies for up to a 30-day period for one brigade-sized Marine air ground task force of about 12,000 men plus special additional support materials for the Army and the Air Force—a 13-ship fleet.

There is quite a mixed bag of vessels out there in service now, and all under charter on a long-term basis of greater than 3 years.

Our 1983 budget requests contains O. & M. funding for continuation of this force.

Now, additional initiatives have been requested of the Navy by the Office of the Secretary of Defense, preferably using fiscal year 1982 funds if that is possible, should authorization be given. Some of these additional requirements above and beyond what is now pre-positioned, are: Additional depot ships for storage of Army ammunition for up to 30 days sustainability; an auxiliary lighterage ship, to be able to carry the necessary lighters or small barges for necessary ship-to-shore movements in cases where there are no ports at all, or just the barest basic unimproved facilities, and a ship to carry a 1,000-bed rapidly deployable medical facility which would be sorely needed in any action where we are very weak and short in medical support assets.

The experience of our program has been quite good.

I would like to show you some of the kinds of ships that are out there, because I think this would tend to give a pretty good focus on an element that I don't think you gentlemen have probably been exposed to too much.

The ship in this slide shows one of the types of vessels—the LASH [lighter-aboard-ship]. We have two of these out on station. These are very special ships which essentially carry barges loaded out with equipment—unit barges of either 500 tons or 1,000 tons.

This slide shows the Seabee barge carrier—with a 1,000-ton barge unit.

These are highly attractive ships in that you can offload the cargo right there in the roadstead and bring it alongside directly.

This slide shows the Ponce class roll-on/roll-off [RO/RO] ship, and the Main class roll-on/roll-off ship. These are fine ships for bringing tracked and other wheeled vehicles—rather limited in terms of other palletized equipment. We only have 19 of those ships in inventory, about 10 of which are of the size that would be really useful for our purposes.

This shows a ship that is currently on station under charter. It is the German Hansa Line vessel which was converted to U.S.-flag requirements about 6 months ago under Lykes and chartered by Lykes Lines to the Navy and is now currently one of the principal ships carrying the unit equipment there.

Our new program of follow-on to this near-term fleet is the maritime pre-positioning ship program. This slide shows you the idealized TAKX. This would be the new construction option of a ship idealized for the maritime pre-positioning support mission.

We intend to eventually place on station TAKX derivatives which would provide support for three Marine amphibious brigades of equipment. Essentially this fleet of ships which would be up to 12 or perhaps 15 vessels, would carry the Marines unitized equipment. There would still be the requirement remaining for the equipment of the Army and Air Force.

Just for reference, 3 Marine brigades is a combat force of approximately 46,000 men, including sustaining support.

The concept was approved in 1980. Basically the ship is a combination carrier, outfitted for its own self-sustaining cargo handling equipment. By combination, I mean it has roll-on/roll-off and also lift-on/lift-off palletized/unitized equipment. It also has certain limited storage of liquid, bulk fuels so that we can, to the maximum extent, spread-load such that if we lost one ship, we don't lose all of the tanks or all of the fuel oil or that type of thing.

It is still basically designed to commercial standards and would be utilized in an administrative capacity. This is not an amphibious assault nor support vessel.

The original plan had six new construction vessels and six conversions of the existing U.S.-flag ships that would be capable, when converted, to carry the amounts of equipment planned. Our estimate for that program was in excess of $2 billion for construction and conversion. With only 19 ships in the fleet—the U.S.-flag fleet—and, based on the very fine experience of the Hansa Line conversion; and, recognizing there are over 500 roll-on/roll-off ships available in the world's fleet, we have structured an approach whereby we have requested industry to offer ships which they could convert and charter to us—provided these ships were converted to our functional specification or requirement to meet essentially the mission or the objectives set forth.

We feel that the approach of conversion and charter is the proper way to go.

Let me give you some of the reasons as we see them.

First, we are going to expand the available supply of ships for conversions as opposed to a new building. The lead ship, as this model shows, will be in the vicinity of $275 to $280 million. We are talking about a conversion of existing assets.

In the merchant marine world—the commercial world—that is a very standard way to go. Conversions for the service, particularly where the service is reasonably benign, is a perfectly acceptable approach.

We are not talking here about a large deck nuclear carrier or an attack submarine. We are talking essentially commercial lift.

So we would like to see what is out there in the world's fleet. Many of these ships which are oversupplied, overtonnaged, are new—less than 5 years of age; they are diesel propelled; in other words, they are more efficient ships than the ones we have.

Second, we think that by conversion and charter, and based on the studies we have conducted, we think there is a good chance that the costs, under a discounted basis, which has been the basis which OMB and OSD have indicated as the proper way to go, will be less than outright procurement.

In any event, the terms and conditions that we expect to negotiate with industry would provide a purchase option.

Now, obviously there are tax, mortgage, and interest issues that have to be resolved. These can only be resolved in terms of a definitive request and definitive offer. It is impossible to study these things before the fact and come up with an absolute definitive answer. We had an outside consultant review the matter. The reason we used an outside consultant, of course, was that he is much more knowledgeable on tax and commercial type of issues than we would have available in house.

Basically he showed that under certain conditions it would definitely be a more attractive way to go.

Now we have gone out on RFP's to industry. We received 25 proposals in January 1982. In other words, there is a lot of interest in this program. They are currently under evaluation. We expect to make a determination or a narrowing down for best and final and get down into the final numbers starting the end of this month.

Assuming there would be a contract awarded in May 1982, we would expect a conversion period of about 20 months.

Now, in summary, we are attempting to rely on industry, on their agility and knowledge of the ship market and commercial conversions. In addition, we would hope that, provided of course that the costs are not higher to the Government, help to bolster the traditional right arm of the Navy, our merchant marine.

Military Sealift Command is long familiar with long-term charters of greater than 3 years in length. Currently it has 39 time and bareboat charters of 3 years or more in its fleet. Five programs initiated since 1952 were initiated under specific build or convert and charter arrangements.

Currently Military Sealift Command is requesting proposals on a build and charter for five T-5 replacement tankers, which would be a five-ship program. I know of no programs that, in addition to our merchant marine, offer as much near-term relief to our commercial ship builders in a time when the order books are absolutely empty.

The nice thing about a commercial program is that it can be initiated quickly, you can move fast. If we were to do this within the Government system, by the time we go through the various SCN processes from year to year—if we could find the obligational authority—I don't think we could make the IOC (initial operating capability) requirements laid on us by the Office of the Secretary of Defense for the fleet.

With your permission, I would like to go on, because TAKX is just one element.

The next part of our program is strategic sealift. It has basically three elements. First is the SL-7 program, which we call the TAKRX. I must tell you I constantly am amused by these acronyms we have. They even confuse me.

This is basically the fast logistic ship program. You are aware of this program, of course. The SL-7's, I showed the slide earlier, in an unconverted state, are very fine, basic ships. They are large, 950-feet long, 33-knot vessels of over 100,000 horsepower. There are eight of these ships. We have purchased six and have funds and authorization, as you know, to procure the last two with fiscal year 1982 funds.

Now, we would very much need to convert these ships so that they can be suitable for rapid load-on and load-out at the point of discharge. Unlike the pre-positioning ships, these ships will not be overseas. They are planned to be based here in the United States, probably spread west coast and east coast, although that is not final. They are to be stored empty, ready for rapid load out in a ready-for-sea, 5-day condition. Of course, with their speed and with eight ships moving they could carry the unit material for up to approximately two divisions—without support, or one division with support—and be able to move to Europe in a 4-day period of time at speeds greater than 30 knots or about 11 days to Southwest Asia, port to port.

In this program, of course, since these are owned by us, we have gone out on a functional specification, which is basically performance. We told the offerors what we would like to have in the way of performance, given them a price bogey, and asked them to submit their concepts and eventually their contract designs on how they would offer to convert the ship for the price.

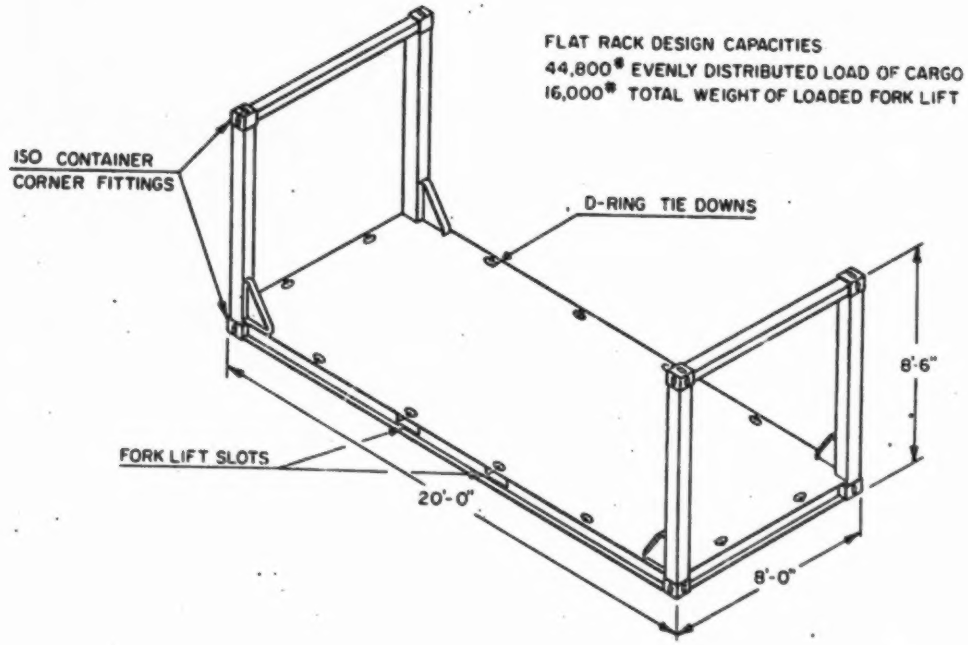
This slides shows a notional conversion of the ships—whether or not our $70 million bogey will allow all of these features is perhaps questionable. We will find out when the final proposals come in this summer. These ships also will be converted to combination carriers.

The pink portion forward of the house is roll-on, roll-off, and the yellow portion over the house with the large gantries, is basically for lift-on, lift-off. These are ideal ships. For our types of cargo, we would like to have some roll-on, roll-off space for our tracked and wheeled vehicles, and then good offload—lift-on, lift-off capability for our palletized unitized cargoes.

I should just summarize here by saying there are four shipbuilding groups. We, I believe, received excellent proposals. Four groups are currently in contract design. We would expect to award a contract before the end of this year—again assuming we can get funds authorized to convert the first four ships. We have a request in fiscal year 1982 to fund the balance of the conversions, the additional four, right after the start of the next fiscal year.

On that basis, we would expect about a 20-month conversion contract to two different shipyards, one on the east coast, one on the west coast.

Our next program, and I would like to to go through this to finish—close the loop—is strategic sealift support. We really have to understand and appreciate that we are going to be geared to address a come-as-you-are logistics support operation, particularly in Southwest Asia. We have a lot of ships, the majority, or bulk, of our current merchant marine contains non-self-sustaining ships. They are going to be moving to ports which are probably not going to be improved to handle containers.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16,000# TOTAL WEIGHT OF LOADED FORK LIFT
ISO CONTAINER CORNER FITTINGS
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CARGO FLAT RACK

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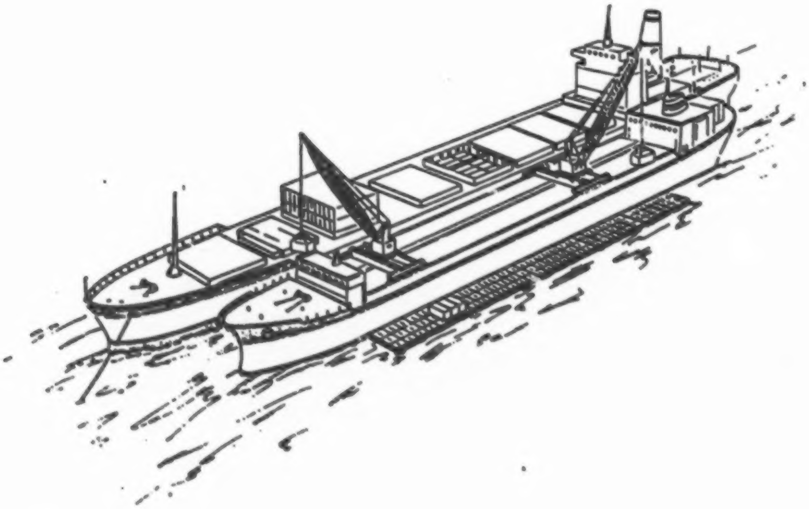
AUXILIARY CRANE SHIP



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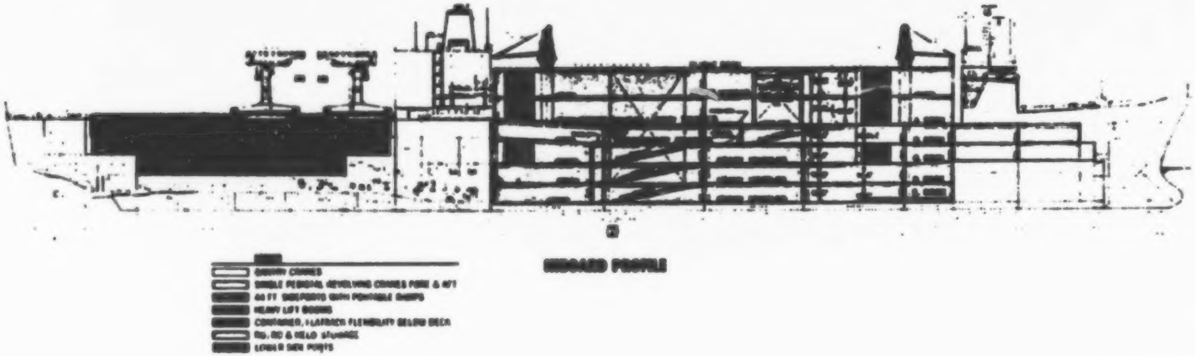
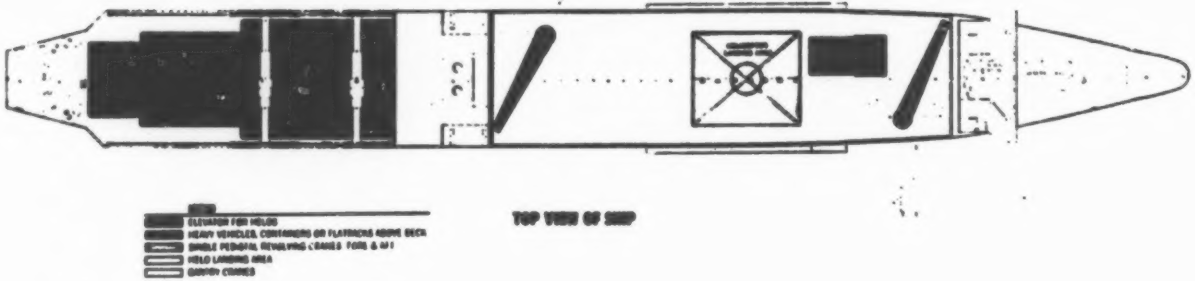

GANTRY CRANES
SINGLE PEDESTAL REVOLVING CRANES FORE & AFT
40 FT SIDEPORTS WITH PORTABLE RAMPS
HEAVY LIFT BOOMS
CONTAINER, FLATRACK FLEXIBILITY BELOW DECK
RO, RO & HELO STOWAGE
LOWER SIDE PORTS

INBOARD PROFILE


ELEVATOR FOR HELOS
HEAVY VEHICLES, CONTAINERS OR FLATRACKS ABOVE DECK
SINGLE PEDESTAL REVOLVING CRANES FORE & AFT
HELO LANDING AREA
GANTRY CRANES

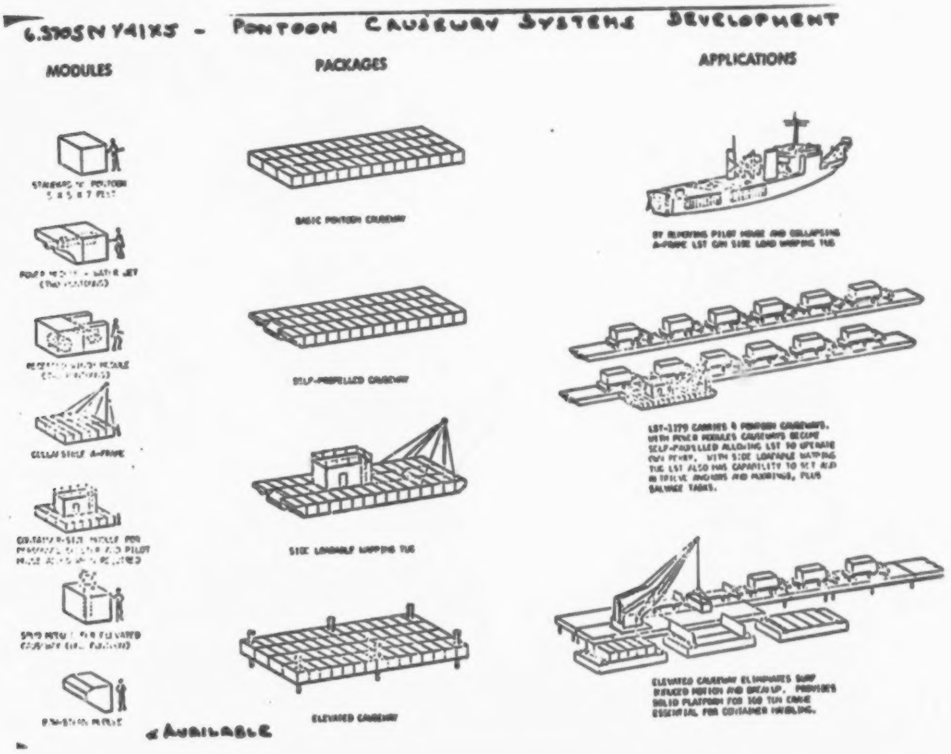
TOP VIEW OF SHIP

We are going to have to try to make do with a bunch of adaptation programs. These slides show flat racks, which would go in container cells, in place of the containers, to allow noncontainer cargo to be loaded. This one is particularly interesting, the sea sheds which we are looking at for the aft-section of the SL-7's, and other vessels. This would allow a much larger load out.

A series of these would convert a cellular container ship to a break-bulk carrier.

These show how you would handle containers in a roadstead. With auxiliary crane ships, which would be converted from old ships out of the NDRF, we would be able to handle the container ship alongside and the containers to lighters.

These are the lighters. They are modular; sort of make up a barge or a causeway, and even an elevated causeway. These show some of the pictures of some of the devices which would be carried either on deck on the new ships or in a special rig that we have planned for one of our LASH ships.


PONTOON CAUSEWAY SYSTEMS DEVELOPMENT
MODULES
PACKAGES
APPLICATIONS
STANDARD NL PONTOON 5 X 5 X 7 FEET
POWER MODULE - WATER JET (TWO PONTOONS)
BASIC PONTOON CAUSEWAY
BY REMOVING PILOT HOUSE AND COLLAPSING A-FRAME LST CAN SIDE LOAD WARPING TUG
SELF-PROPELLED CAUSEWAY
COLLAPSIBLE A-FRAME
LST-1179 CARRIES 4 PONTOON CAUSEWAYS. WITH POWER MODULES CAUSEWAYS BECOME SELF-PROPELLED ALLOWING LST TO OPERATE OWN FERRY. WITH SIDE LOADABLE WARPING TUG LST ALSO HAS CAPABILITY TO SET AND RETRIEVE ANCHORS AND MOORINGS, PLUS SALVAGE TASKS.
SIDE LOADABLE WARPING TUG
ELEVATED CAUSEWAY
ELEVATED CAUSEWAY ELIMINATES SURF INDUCED MOTION AND BREAKUP. PROVIDES SOLID PLATFORM FOR 100 TON CRANE ESSENTIAL FOR CONTAINER HANDLING.
AVAILABLE

This shows how you would convert one of those barge carriers to carry your pontoon sections to the station.

The aforementioned systems are for dry cargo, the next are for liquid bulk cargo. Showing a floating system, phase 2 of an offshore system.

The final aspect of our strategic lift programs is the Ready Reserve Fleet. This is, I think, quite important.

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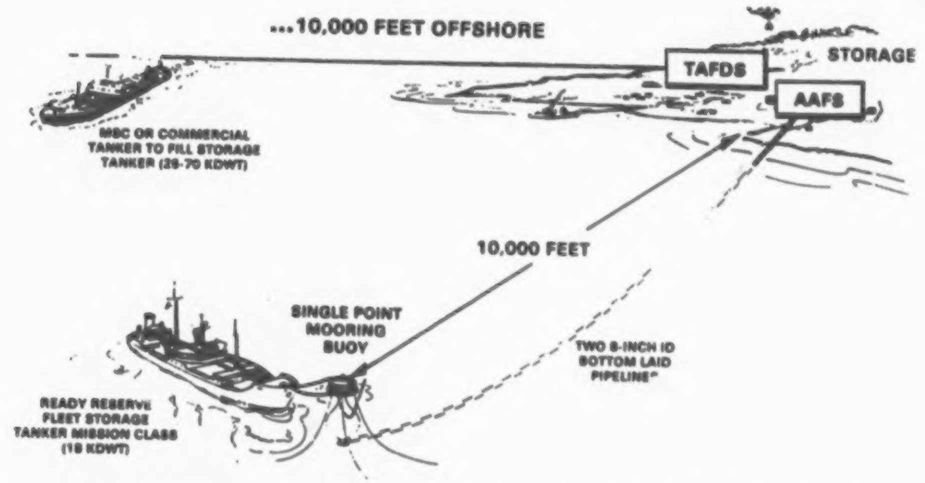
POL LOGISTICS


...10,000 FEET OFFSHORE
TAFDS
STORAGE
AAFS
MSC OR COMMERCIAL TANKER TO FILL STORAGE TANKER (26-70 KDWT)
10,000 FEET
SINGLE POINT MOORING BUOY
TWO 8-INCH ID BOTTOM LAID PIPELINE*
READY RESERVE FLEET STORAGE TANKER MISSION CLASS (18 KDWT)

In the NDRF, as we mentioned, the bulk of the ships are very old. But there are some newer ships. These are post-World War II break-bulk vessels which are certainly by commercial standards—they are 18 to 20 years of age. That is not very old by some of our naval ship standards, but they are no longer economically competitive.

The break-bulk ships with the old steamplants and the manning that is required without automation, mean that they are not cutting it in the commercial market. These ships are being traded in, yet we recognize they are still very serviceable. Thus we, and the Maritime Administration, for the past few years have set up a Ready Reserve ship fleet.

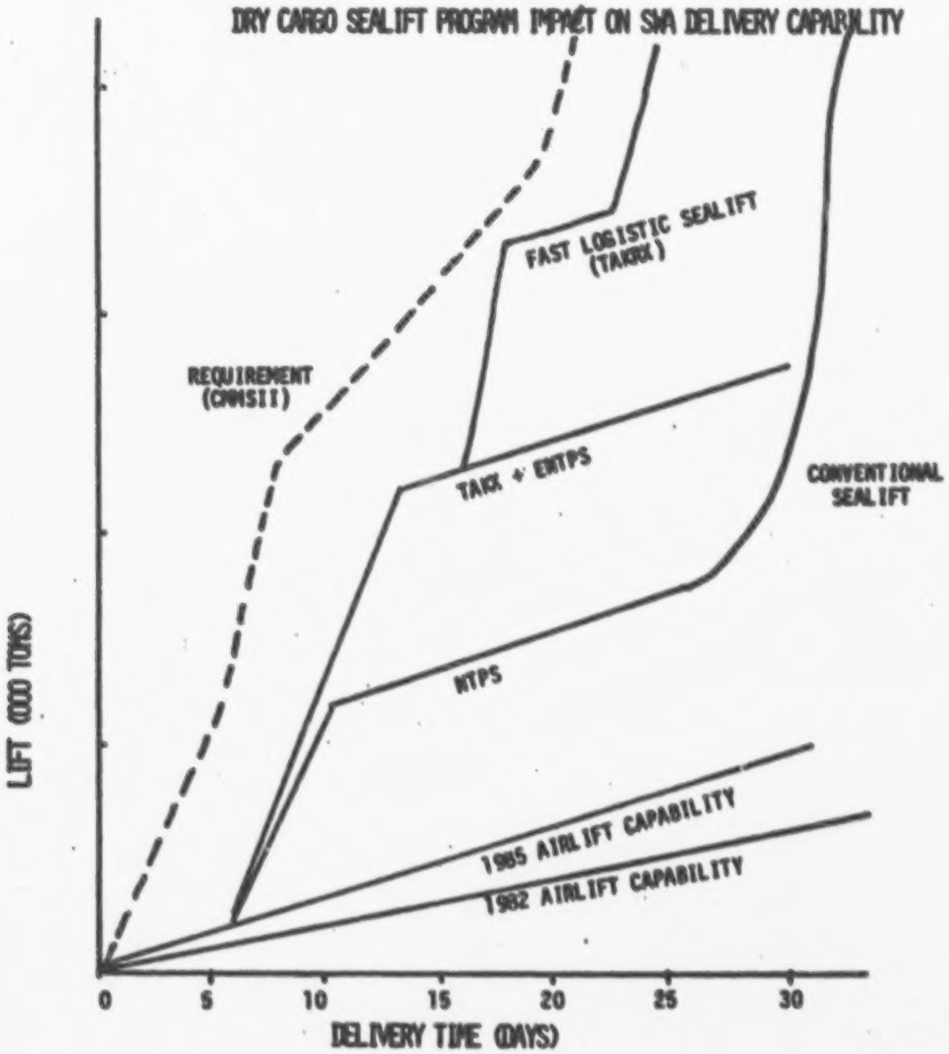
The Ready Reserve Fleet is the top line of the ships in the Reserve Fleet. They are basically maintained in a ready-for-sea, 10-day status. We check this every year by means of actually going through a drill and breaking some of the ships out to see if they can indeed be broken out in the time permitted.

Now, up until recently, the Maritime Administration has been funding the trade in acquistion cost for these out of construction differential subsidy—generally paying somewhere between scrap and book value for the ships. We had been funding, of course, the putting into class or overhauling the ship—getting them fixed up—and then the cost of keeping them in mothball, in a 10-day reserve operational status.

We have 27 ships currently in Ready Reserve Fleet. Our plans right now are to go to 44, including more than 6 tankers. We plan to add five more ships in 1982 and two more in 1983. Unfortunately, the Maritime Administration has run out of construction differential subsidy. Subject to concern and direction by this Congress, we have been looking into this matter, and we would very much like to fund acquisition of the additional assets, where the prices are between the scrap and book value, as required, working very closely with the Maritime Administration.

We want to work with MARAD on this to be sure we don't end up in a fire sale situation where we retire active ships that should be kept actively in service.

But there is probably no cheaper way or cost-effective way to add support lift and standby lift capability than the Ready Reserve Fleet. In fact, I will show this on the summary slide.



This shows results from the congressionally mandated mobility study (Scenario II) with regard to buildup and support to the requirements for a major engagement in Southwest Asia. You can see how it adds airlift, which are the bottom two lines. Airlift really doesn't do much except get some of the very high priority stuff at the front end. The first ships to arrive are NTPS, followed by ENTPS, followed by the TAKX or MPS ships.

The next is the SL-7's. The final, big jump includes the ships that would come out of the Ready Reserve, and they, of course, would be the ones ultimately that come through with the long-term sustainability.

I would just like to summarize with one more program, because it is covered under strategic mobility. This is our hospital ship program. This is currently an SCN acquisition through conversion. We have a large medical shortfall with regard to waging a successful action in an area such as Southwest Asia. We, of course, have no hospital ship assets at the present time.

The requirement, as it has been defined, is for 2,000 beds or 24 operating rooms in a hospital ship or ships. This is a very significant requirement. We have requested funds in SCN for $300 million in 1983, to be followed with approximately $26 million more in the 1984 line. We hope that we could get proposals on more than one ship.

We went out to industry with a request for proposal again based on a performance specification, in September. We received preliminary submittals in December, so that we could evaluate whether or not we were on-track technically. That was, more or less, to assure ourselves that this approach was more viable than breaking out the SS *United States*. I think we certainly confirmed that this was a more viable approach to ourselves and to the Department of Defense.

We received final design proposals last month, and they are currently being evaluated. Again, we would expect to award at least one, hopefully more, contract designs, so we have a competitive design activity, start conversions sometime around May 1983, and have the ship or ships converted and ready sometime in 1986.

Concluding, gentlemen, I would just like to say that our strategic lift support problem is very basic and very serious. Our solution, or proposed solution, is to rely wherever possible on the traditional organization and approaches, using the assets of our merchant marine to the maximum extent possible. It is not going to help us, and I don't think it is going to help the country, to buy a whole bunch of ships, perfectly good ships in service, from distressed operators at this time on fire sales and put them somewhere in the Reserve Fleet and watch our entire U.S.-flag fleet dwindle to nothing.

I would think we would have made a short-term gain at a very long-term debit to the basic seapower of the United States.

The Military Sealift Command is our traditional DOD Navy organization for working with the Merchant Marine. Over 75 percent of its total annual expense is paid directly to the private sector, and more than 95 percent of all military dry cargo last year moved in privately owned U.S.-flag ships. To the extent possible, I think we should avoid building a Navy or a DOD merchant marine. There is no way we can handle the long-term sustainability problem with our own endemic lift, and our management resources within Navy will be stretched enough in just executing our 600-ship battle fleet and the execution of our fleet and combat support missions.

Thank you very much, gentlemen.

WRITTEN STATEMENT OF HON. GEORGE A. SAWYER

INTRODUCTION

Mr. Chairman, I am pleased to appear before you again and to present the Navy program in support of our strategic mobility programs. The execution of these programs mark a real change in our deployment planning strategy and sends a clear signal (without undue provocation) to our adversaries. It signals our intent to ensure access to areas vital to our national interests. Not only does this set of programs mark a change in our military capability, but our strategy to acquire this capability differs markedly from the majority of our ship acquisition programs. Unfortunately, there has been considerable confusion over the "what", "why", and "how" of these programs. I believe this statement will clear the air. First, let me cover maritime pre-positioning, and then I will discuss our sealift initiatives.

MARITIME PRE-POSITIONING

It should be noted at the outset that maritime pre-positioning programs are considered an essential, flexible, responsive, and cost-effective enhancement to our Nation's austere strategic mobility capability. Recent studies have demonstrated that no other mobility program can introduce more rapidly as much balanced combat power and sustainability to potential trouble spots on or near coastal regions. Maritime pre-positioning provides an alternative when political considerations of the need for flexibility constrain land-based pre-positioning.

Maritime pre-positioning programs have been established to store equipment and supplies aboard ships in the Indian Ocean. The first, the near-term pre-positioning force (NTPF), provides unit equipment and supplies for a brigade-sized Marine Air Ground Task Force (MAGTF) pre-positioning aboard dry cargo and tanker ships chartered and controlled by the Military Sealift Command (MSC). The ships also contain significant amounts of supplies, ammunition, POL, and water for early arriving Army and Air Force FDJTF units. The NTPF is comprised of the original seven near term pre-positioning ships (NTPS) placed on station in July 1980. Subsequently, the JCS initiated enhancement to this package with funding appropriated in 1981 for six additional ships (expanded near term pre-positioning ships-ENTPS). This enhancement improved the sustainability of the MAGTF from 15 to 30 days, plus it added more support for Army and Air Force units. The fiscal year 1983 budget request contains operations and maintenance funding for the continuation of this pre-positioning force. Funding is also provided for additional depot ships for storage of Army ammunition to be in place during fiscal year 1982. This program, in concert with other initiatives, is designed to meet the needs of Army reinforcing forces to Southwest Asia (SWA) for the first 30 days of conflict. Material to be pre-positioning will be made available from stocks the Army is procuring for the RDF. We estimate that annual charter costs should be $12 to $14 million, plus $10 million in one-time costs for sheathing and dehumidification equipment installations. This program, along with the auxiliary lighterage ships (TALS) for ship-to-shore movement ($14m charter costs) will be funded through money appropriated in fiscal year 1982. We expect these last two programs will be a continuing requirement even after the MPS is operational. Within the Next few months this force will be further increased when we pre-position a ship containing a 1,000 bed rapidly deployable medical facility (RDMF) to provide casualty care for the Marine component of the NTPF. Material is to be loaded beginning 1 April on an interim vessel. This ship will be placed by an articulated tug and barge (ARTUBAR) during the summer of 1982. This replacment vessel will, in addition, provide ship-to-shore lift subsequent to offload of medical material. Estimated program funding for fiscal year 1982 is $13 million. These programs reduce response time to the region and provide a test-bed for future development of larger long-term maritime pre-positioning efforts. Current experience with the pre-positioning force has been good. Operationally, ships are scheduled underway for about 10 days per month. This scheduling contributes to their improved operational readiness and security at Diego Garcia.

At this point, I would like to shift from these near-term efforts and focus on the follow-on programs—in particular, the maritime pre-positioning ships (MPS) and companion hospital ship progrm. These programs will ultimately replace that portion of the NTPF program associated with support for the Marines. MPS will consist of selected unit equipment and supplies to support three brigade-sized MAGTF's. Joint service shipping in the NTPF for fuel, ammunition and water will not be replaced. Funding for our maritime pre-positioning is shown below.

MARITIME PRE-POSITIONING FUNDING

[In millions of dollars, by fiscal years]

	1981 actual funding	1982 planned funding	1983 proposed funding	1984 proposed for authorization
Near-term pre-positioning ships (NTPS/ENTPS) and depot ships	131.0	150.0	230.0	253.0
Maritime pre-positioning ships (MPS) [1]	19.0	139.0	329.0	494.4

[1] Includes USMC equipment acquisition and operations and maintenance costs.

MARITIME PRE-POSITIONING SHIPS (MPS)

The MPS program resulted from a comprehensive examination by the Navy, Marine Corps, Center for Naval Analysis (CNA), and the Office of the Secretary of Defense, culminating in approval in 1980. The concept does not pretend to possess, nor be a replacement for the force projection capabilities of amphibious forces. Rather it is designed to enhance the ability of the Navy/Marine Corps team to provide the national command authority with a wide range of deterrent and force projection options, each with its own discreet signal and each with its own credible and fully integrated combat capabilities. Of equal importance, the MPS program reduces the requirements for less flexible and vulnerable land-based pre-positioning while significantly reducing the airlift burden. In view of the significant importance of the MPS program to a viable national military strategy, we are taking steps to accelerate its development while reducing near-term costs by relying on the U.S. Merchant Marine.

The TAKX RFP was issued to industry on October 15, 1981. The cargo pre-deployed on the MPS consists of large amounts of bulky, heavy military tracked and wheeled vehicles, fuel, water, and ammunition. The RFP specifies that all MPS ships (currently designated TAKX) will have multi-cargo capability in order to permit spread-loading, and thus, reduce force vulnerability by ensuring that loss of any one vessel will not cripple the force. Accordingly, vessels must have strong decks, high overhead between decks, wide access hatch dimensions, and heavy ramp capacity. Further, in order to ensure that the force can be discharged in austere regions, these ships will have self-offload capability without reliance on developed ports. Technical proposals were received on January 18, 1982, and we are currently in process of evaluating them with contract award scheduled for May 1982. The enthusiastic industry response (over 25 proposals received) has substantiated our confidence in charter program feasibility. The program is envisioned to consist of 12 to 15 commercial vessels, modified by the offerer as necessary to meet requirements for the three brigade-sized MAGTF.

Our decided preference for acquiring ships for the TAKX mission has been for long-term charter. Thus, funding has been contained in the operation and maintenance request (O&M). Concern has been registered within the Congress as to: (1) the Navy's experience to ensure success in such a venture, and (2) financial viability of such an approach. First, with regard to experience, Navy has been writing long-term charters for a number of years in the normal course of business, including the near-term pre-positioning force. This experience shows that long-term business arrangements can be completed that are satisfactory to both parties.

The second issue, regarding financial viability, has also been clearly demonstrated. It is anticipated charters will cost less than direct acquisition when compared on a present value basis. Although costing less, at their discounted present value, when compared to an outright procurement program, contemplated contract terms will allow the Navy to purchase the ships should future acquisition of the vessels be desired. The charter approach maximizes competition, minimizes cost, and improves flexibility by increasing the number of vessels available for charter, since foreign built vessels could be reregistered under U.S.-flag, and then chartered for use. (Proposals are now being evaluated so further comment in this regard is inappropriate at this time.)

The budget is based upon a charter payment of $20 million annually, exclusive of annual crewing and fuel costs. The present value of this funding stream is roughly equivalent to the present value of the purchase alternative. Should less extensive conversions be feasible, the charter costs would fall. We are hopeful that this will be the case.

In order to meet the current schedule of one MAGTF in fiscal year 1984, one in fiscal year 1985, and one in fiscal year 1987, ships will be chartered in late fiscal year 1983, 1984, and 1986. Funding, therefore, must be available commencing in these years.

In summary, our review suggests that the convert and charter approach for the TAKX will improve the chances for a successful program, because it broadens the number of potential candidates from existing U.S.-flag ships to a much broader segment of the world-wide inventory. The responses to the RFP provide a clear indication of feasibility. For once we are telling industry what it is we want done—not how to do it. We are relying on the private sector for proposals that are imaginative both in terms of ship design and financial management. From the financial perspective, a charter program can be constructed which will have a lower present value than the purchase option. Thus, all the conditions necessary for a successful program are evident. Since the proposed acquisition strategy uses the traditional services of the U.S.-flag maritime industry, it will serve to strengthen this important industry in consonance with this administration's policy objectives.

HOSPITAL SHIP (TAHX)

A separate program, but one associated with support of the RDJTF, is structured to provide for necessary mobile hospital capability—the TAHX.

Last fall, the Navy initiated a program for conversion and purchase/acquisition of a ship or ships for the hospital ship program. New construction, in addition to conversion of existing merchant ships, remains an option at this time. One of the Navy's original procurement alternatives—convert and charter—is not currently under consideration. The $300 million (SCN) in the fiscal year 1983 budget is the initial requirement of a two-year acquisition with an additional $260 million (SCN) programmed for fiscal year 1984. The $300 million in fiscal year 1983 will purchase and start conversion of the first of possibly two or three ships which we anticipate in the program.

We released a request for proposal (RFP) to industry on September 2, 1981. The RFP specified a preliminary input in December and a final proposal in February 1982. The preliminary output was necessary to allow the Navy to evaluate alternatives to the option of acquiring and converting the SS *United States*. This early review demonstrated that attractive alternatives did, in fact, exist. We are now in the process of evaluating the design proposals submitted last month and expect to award a contract for the design phase in May 1982. Our current schedule calls for the construction or conversion contracts to be awarded in mid-1983.

SEALIFT PROGRAMS

Sealift is vital for projecting and sustaining our forces. In a large deployment, it would deliver armored and mechanized forces as well as support forces, resupply, and ammunition. The vast majority of our capability will come from the merchant fleets; yet, over the last few decades there has not only been a decline in total number of U.S. flagged vessels, but in the type that are useful in force deployments. Of particular note is the increased numbers of container ships replacing those of the break-bulk type. Our fiscal year 1983–87 program funds initiatives that will increase the capability and reduce the response time of our sealift forces. First, I would like to present our efforts to provide surge sealift and then touch on our strategic sealift support programs. Funding for these programs is shown below:

STRATEGIC SEALIFT PROGRAMS FUNDING

[Dollars in millions, by fiscal year]

	1984 actual funding	1982 planned funding	1983 proposed funding	1984 proposed for authorization
TAKRX:				
Procurement	$210.0	$68.4		
Quantity	6	2		

STRATEGIC SEALIFT PROGRAMS FUNDING—Continued

[Dollars in millions, by fiscal year]

	1984 actual funding	1982 planned funding	1983 proposed funding	1984 proposed for authorization
Conversion		$341.6	$325.6	$21.4
RRF (OM&N)	$10.4	$14.5	$19.9	$47.0
Sealift support			$64.0	$187.0

FAST LOGISTIC SHIP PROGRAM (TAKRX)

The requirement to move forces rapidly and maintain flexibility has caused us to look for ways to decrease the response time of sealift. Meeting this objective requires ships that can travel at high speeds and be rapidly loaded and unloaded. The acquisition and conversion of high-speed (33 knot) SL-7 container ships will allow us to deploy ground combat units more rapidly. Six of these vessels were procured in fiscal year 1981. Funds were provided in fiscal year 1982 to complete acquisition of the remaining two ships and to convert four of them for military use. We are requesting funds in fiscal year 1983 to convert the remaining four. Converted SL-7 ships (TAKRX) will become operational commencing in late 1984. (This program should not be confused with the TAKX program which is for pre-positioning—they are not the same nor are they a substitute for one another). Conversion is essential to permit these vessels to efficiently load and offload equipment, thus capitalizing on their inherent speed and large capacity. When converted, the ships will be combination roll-on/roll-off (ro/ro), and self-sustaining, lift on/lift off vessels capable of accommodating the varied spectrum of equipment and supplies of ground combat forces. The ships will be maintained in U.S. ports in such a condition that they can be loaded and dispatched within five days of crisis alert.

READY RESERVE FLEET (RRF)

The Navy has also programmed funds to expand the size of the Ready Reserve Force (RRF). The RRF, which is part of the national defense fleet, contains 27 dry cargo ships that have been maintained to make them available for loading within 10 days after notification. This program contributes to the early availability of shipping and reduces the time required to begin sealfit operations. The source of ships for the RRF is normally from the operating U.S. merchant fleet and consists of break-bulk ships which are still capable but which are no longer commercially competitive and have been turned in by their owners. We plan to increase the size of the fleet to more than 44 ships, including more than 6 tankers. Five ships are being upgraded during this fiscal year and funding for maintenance of all 32 ships as well as funding for the upgrade of two more ships is contained in the fiscal year 1983 budget submission.

Until the recent demise of construction differential subsidy (CDS) funding, initial acquisition of ships turned in by owners was accomplished with a portion of the CDS. In the absence of this subsidy, we are planning to pay for the acquisition of additional ships as they become available. This expense is justified since adding ships to the RRF is the most economical and cost effective means by which we can assure adequate sealift to meet worldwide contingency sealift surge requirements. We plan to work with MARAD in negotiating equitable terms; assure that we are not purchasing still useful, operational ships; and will pay some amount between scrap and book values for these ships.

STRATEGIC SEALIFT SUPPORT PROGRAM

Our reinforcement and force projection strategies rely heavily on lift provided by the Merchant Marine. In view of the recent trends discussed earlier, current commercial vessels operate between well developed ports that provide on- and offload capability with sophisticated equipment; with few exceptions, these vessels have limited self-sustaining capability. Regions of the world where our strategic interests are located often do not have such facilities, or, in time of war, we could expect such facilities to be denied for our use or destroyed. For example, deployments to southwest Asia may require the discharge of dry and wet (fuel and water) cargoes in nonmodernized ports or over the beach. Thus, when these ships are called into support of force deployments, we would be required to add or improve communications and provide a self-sustaining capability. In addition, where capability cannot be made an inherent part of the ship, we must acquire equipment to assist in discharge functions. To provide offload capabilities in these austere regions we have initiated programs to offload ships (to include container, break-bulk and tanker vessels) in undeveloped ports and over-the-beach. These programs will enhance the flexibility of our sealift resources and increase the military utility of our valuable merchant sealift resources. The table below highlights some of these programs.

Strategic Sealift support programs—Program and description

COTS—Container Offload and Transfer System.—This system will enable a container ship to discharge in an unimproved port or in a roadstead. The auxiliary crane ship (TACS) is one of the major components. This is a modified containership with two gantry cranes. Based on throughput rates and cargo offload requirements for SWA contingencies our objective is to procure 11 TACS.

Ship-to-Shore Discharge Systems.—Contains such systems to improve offload in austere regions: PCS—Pontoon Causeway Sections; SLWT—Side-Loading Warping Tug; CSNP—Causeway Section, Non-Powered; ELCAS—Elevated Causeway; OBFS—Offshore Bulk Fuel System; and Mooring Bouys.

MLSF Improvements—Mobile Logistic Ship Force.—Addition of the "Sliding Padeye" to merchant ships will permit these vessels to wholesale to the MLSF vessels, thus saving long MLSF turn-around time.

Platform Improvement Systems.—Acquisition of systems to improve utility of merchant containerships: Flatracks; and Sea Sheds.

CONCLUSION

I believe our pre-positioning and sealift programs provide a significant contribution to our ability to offer conventional response alternatives as well as a viable deterrent capability. This program is balanced to provide the taxpayer maximum advantage for the dollar and the national command authority maximum leverage and capabiality during times of tension or actual crisis. I believe the program is affordable and executable.

Mr. Chairman, this concludes my remarks. I am prepared to address any questions that the committee may have.

Mr. BENNETT. Thank you very much.

Admiral Fowler is our next witness.

You may proceed, Admiral.

BIOGRAPHICAL SKETCH OF VICE ADM. EARL B. FOWLER, JR., USN

Earl B. Fowler, Jr., was born in Jacksonville, Florida, on September 29, 1925, son of Earl B. and Veva Carpenter Fowler. He enlisted in the Navy V12 program and entered Georgia School of Technology in July 1943. In February 1946, he graduated with a B.S. degree in mechanical engineering and was commissioned Ensign, U.S. Naval Reserve.

His first duty was aboard the U.S.S. *Columbia* (CL-56). Thereafter he served on the U.S.S. *Ranger* (CV-4) and the U.S.S. *Wright* (CVL-49).

After graduation from Massachusetts Institute of Technology in January 1949 with a B.S. degree in electrical engineering, he was assigned to the U.S.S. *Leary* (DDR-879). He then served at the Naval Shipyard, Charleston, South Carolina, and on Cominelant staff.

Vice Admiral Fowler served at the Navy Radiological Defense Laboratory, San Francisco, and Hunter's Point Naval Shipyard. After 2 years as Material and Engineering Advisor in the Military Assistance Advisory Group, Republic of China, he served on Comservpac Staff at Pearl Harbor, Hawaii.

In September 1965, he was ordered to the Pacific Missile Range, Pt. Mugu, California, as Head, Ship Engineering Division, working on the design of ships for the Apollo Program and National Range Support.

Vice Admiral Fowler came to the Naval Material Command in July 1967 as Project Manager, Instrumentation Ships Project Office, PM-5. He then became Project Manager, Oceanographic, Mine Patrol and Special Purpose Ship Acquisition Project. He attended the Harvard University Advanced Management Program during the fall of 1971.

In January 1972, he reported to the Naval Electronics Systems Command as Deputy Commander for Material Acquisition. Promoted to Rear Admiral on August

1, 1974, he served as Vice Commander until June 30, 1975, and as Commander from August 31, 1976, to March 21, 1980. He was promoted to Vice Admiral and became Commander, Naval Sea Systems Command, on March 31, 1980.

He was awarded the Legion of Merit for meritorious services performed at the Naval Electronic Systems Command. In addition, he has the Meritorious Service Medal, the American Theater Medal, World War II Victory Medal, Occupation Medal (Europe), and the National Defense Medal with star.

Vice Admiral Fowler is a member of Delta Tau Delta, Georgia Tech; Pi Tau Sigma Honorary Mechanical Engineering Fraternity; Institute of Electrical/Electronic Engineers; the American Society of Naval Engineers; and the Society of Naval Architects and Marine Engineers.

Vice Admiral Fowler and Mrs. Fowler, the former Helen Marie Jorgensen of Sioux City, Iowa, reside in Alexandria, Virginia. They have two children, Mary Helen and Joan Ann.

STATEMENT OF VICE ADM. EARL B. FOWLER, COMMANDER, NAVAL SEA SYSTEMS COMMAND, DEPARTMENT OF THE NAVY

Admiral **FOWLER**. Thank you very much, Mr. Chairman.

I appreciate this opportunity afforded by you, Chairman Bennett, and also Chairman Daniel, to appear before the combined committees. I regret that I was not here last year, as I recall Secretary Lehman and I were over on the Senate side talking about some of the urgent submarine issues that we had already talked to the Seapower Subcommittee about last year.

I am pleased to be here this year. I have with me Rear Adm. Jim Nunneley, on the Chief of Naval Operations staff and Director of Ship Maintenance and Modernization. He is the man who knows the financial side of our operation.

The concern that you and Chairman Daniel and other members of the committee have expressed about this business of overhauling ships in the U.S. Navy is properly placed, I believe.

It is the single most important issue and the one that occupies most of my time and my responsibility.

At this very moment, there are 65 ships in the U.S. Navy under overhaul. Nine ships are about to start overhaul, and there are 150 ships in some stage of preoverhaul planning.

There are about 224 ships being worked on by the Naval Sea Systems Command. This work includes the definition of repairs or modernization, the preparation of specifications and drawings, estimating costs, allocation of resources, refining schedules during the planning phase, and the performance of work during the execution phase.

This is a large, important, complicated operation not duplicated in any other military service or commercial enterprise anywhere in the free world. The Navy has not put as much intensified management attention on improving the overhaul of our combatant ships since World War II. We are making progress, but there is much that remains to be done.

I have the prepared statement, which I will submit for the record, with your approval, Mr. Chairman.

Mr. **BENNETT**. Without objection.

Admiral **FOWLER**. This statement provides a profile of the Navy ship overhaul programs, reports on the performance of the program, discusses the key management issues being taken to improve ship maintenance and modernization, and summarizes the primary issues emerging from these maintenance and modernization efforts.

Mr. Chairman, I can step through the prepared statement and make some additional comments, if you would like, or I can proceed right directly to questions and answers at this time, if you prefer.

Mr. **Bennett**. I think if you can briefly review it, I understand it is a very fine statement; it looks like you have done an excellent job. If you could briefly summarize it, I would appreciate it.

Admiral **Fowler**. First of all, Mr. Chairman, the Navy's policy is to overhaul ships in or near the ship's home port to minimize family disruption, improve crew morale, and thereby retain personnel. Other key factors considered in determining the industrial facility at which a ship will be overhauled include the ship complexity, in other words nuclear or nonnuclear, and the type of weapons systems, fleet operations schedules and material readiness requirements, shipyard workload and qualifications, shipyard capacity and capability in the home port area, and of course the defense acquisition regulations that are applicable to the private sector competition requirements and small businesses.

The chart on page 2 of my text, chart 1, show the location of the ships with our largest fleet concentration being in Norfolk about 112 ships, and San Diego, on down through the other major ports.

Chart 2 shows our public shipyards.

Chart 3 shows the ship repair industry that is currently involved in overhall of our ships.

On chart 4, I have tried to show you the distribution of repairs and alterations, how the funds are allocated over the fiscal years 1980, 1981, and 1982.

On chart 5, I have covered the distribution between public and private yards on a dollar basis.

One of Congressman Whitehurst's questions was how could the Congress judge our performance. This is always a difficult issue for me to conclude as well.

On page 8, under performance evaluation, I have attempted to cover that area. I, of course, look at quality foremost, particularly in our nuclear ships and in our major surface combatants. I can tell you that the quality of work in our nuclear ships is excellent.

The quality of work in other ships is good. And the quality in my judgment is improving. It is very difficult to get a quantitative measure of how well quality is at the present or what the trend is. Everybody understands that $5 is more than $4 by $1. Everybody understands that 10 days is 1 day longer than 9 days by 1 day. But when we start to measure something like quality, it becomes quite subjective and a difficult evaluation.

We have instituted within the last year a program for the shipyard commander or supervisor of shipbuilding who completes an overhaul to make a subjective, qualitative assessment of how well that overhaul went—send that to the type commander who is responsible for that ship, who will then supply the fleet viewpoint and then send that report on to me as our overall evaluation for the overhaul.

We have only a few of these reports. So we do not have a data base. I hope this technique, which is relatively new, will give us a relatively high level subjective but accurate assessment of just how well we are doing.

The second factor that I look at is schedule adherence. We are doing better. We have included some charts in the prepared testimony on how schedule adherence is going. This is improving. And then of course cost is always a factor.

I think if we emphasize quality, we will reduce a lot of the rework that goes on which causes costs to go up. If we emphasize schedule adherence, we will shorten the length of our overhauls. And both of these efforts will result in lower cost overhauls.

So these things are mutually compatible. I think they are complementary.

I also look at one other thing, the key performance indicator, along with cost schedule and quality, and that is the definition of the work prior to the start of the overhaul. This has become one of the key factors in our overhaul management effort, particularly the management improvements we are trying to make to improve the planning processes, is to get a good description as early on as we can, as to what the work is that is to be done during the overhaul.

It facilitates the programing processes, allocation of resources, it facilitates the ordering of material, the scheduling of work, workload planning, and a number of factors which subsequently result in a more efficient and better overhaul all around. We are using engineering techniques which have been proven to assess the quality of machinery and systems so that we can make good, solid decisions on the nature of the work required.

We have a program for improving overhauls, formal programs since early 1978.

I reassessed that program when I relieved Admiral Bryan almost 2 years ago. It had in it all of the elements that we needed. We were doing a number of the right kinds of things. Starting at the beginning of last year, I reemphasized and reinvigorated that program because I felt we were not making the kind of progress that we needed to make and I think that has been the right thing to do, it has been useful, and we are doing better now.

The major thing we did was to try to focus in on greater detail on the right kinds of things at a lower level, bringing more resources to bear on those things that are high payoff.

Basically, in the early part of last year, we sorted out those issues which were high payoff and we knew how to do it and we emphasized doing those.

So I don't want to cast our 1981 DOIP as it has been called, depot operations improvement program, as a new panacea that is going to solve the world's problems. It is merely a reorientation and refocusing of attention on those things which we consider to be important and that we know how to do, and we are getting on with that.

In the process, we have tried to incorporate under the DOIP all of the efforts we have ongoing, so that we could make a total assessment of all activity on all kinds of overhaul improvement efforts, surface ships, and submarines, private sector and public sector. We are still sorting out a number of issues and still have a long way to go.

But in the testimony for the record, on pages 18 and 20, I have included the eight major thrusts of the DOIP. We have each one of these broken down into more detail. We have made more progress in some than we have in others. The state of the progress on each one is different. I won't attempt to elaborate on each one of those. One area in particular I think we have made good progress is in our contracting with private industry.

We started last year to tell the industry annually what our plans are for the following 2 fiscal years. And this week we have a group meeting who will reassess our plans for 1983 and take the first look at 1984, and within a short period of time after they do this we will have it written down on paper and then we share that with the industry.

We did that last year. This has been very helpful to the industry, in giving them at least a 2-year look at where we are headed, and not only tells them where we are going to overhaul the ships, whether they are going to be bid in home part or in the extended area around the home port which goes out to about 200 miles or up and down the whole coast. In the Atlantic, the entire coast includes the gulf coast, and in the Pacific of course up and down the west coast of the United States. It also tells them the type of contract that we plan to use and gives them the schedule, so that they have at least a 2-year plan to look at, and I believe that has been quite successful.

We have been able to discipline that system well enough so that changes that are forced on us by operational changes or unforeseen events that always cause a 2-year plan to have to take on some changes have not been too bad,

We have had an improved working relationship with industry. We have met on many occasions, I would say recently our ability to get problems out and on the table and talk in a constructive fashion has improved substantially, and that is moving forward.

We are taking a strong, hard effort to improve the technical side of our operations so that the drawings and specifications that we issue are more likely to be correct than they have been in the past. We continue that effort.

I also have a strong program going to try to improve the technical specifications down to the level of the detail that the actual mechanic on the job utilizes.

We want a consistent quality of work and a consistent result. We are going to do that through control of the technical specifications.

We have a number of things ongoing. I think the indicators that I look at show we are making progress. We will continue to give this strong and increasing emphasis. As I look to the future, I don't see any unmanageable problems in overhauling the expanded Navy that we hope we will have here in the next few years.

With my broad responsibilities, I have a hard time defining how big a problem has to be before it is big, but I don't see any that we can't handle at the present time.

Mr. **Bennett**. You do see a definite improvement from what we had in the past, don't you?

Admiral **Fowler**. Yes, sir. We are making progress.

Mr. **Bennett**. That is also true about new ship construction, too, is it not, as well as repair?

Admiral **Fowler**. Yes, sir. We are in pretty good shape. In our submarine program today we are probably in the best shape in terms of business and contracting tidiness, best shape we have been in since the SSN-688 and the *Ohio* class, Trident submarine, contracts were initially signed.

In the other new construction areas the surface ship areas, we are fairly current. We have all the 1981 ships under contract. We have a number of the 1982 ships under contract. We are moving now to get in a position where we can put the 1983 ships under contract much earlier in the fiscal year than has been our custom the last 2 or 3 years.

I think it is important from several aspects.

First of all, the Navy wants the ships. The sooner we put them under contract, the sooner we get them.

Second, I read the country to be in a situation where as soon as the Congress authorizes us to spend money, we ought to get it into industry so there are jobs created.

Third, I think it is good for us to be in a style of operation that says once you tell us to go build a ship, we start doing that right off and don't wait until the end of the fiscal year or until the start of the next fiscal year before we actually get it going.

WRITTEN STATEMENT OF VICE ADM. EARL B. FOWLER

I. Introduction

Mr. Chairman and distinguished members of the Subcommittees, I am Vice Admiral Earl B. Fowler, Commander of the Naval Sea Systems Command. It is a pleasure to appear before you to discuss the execution of the Naval Ship Overhaul Program and report our progress in improving performance. I will be discussing the Navy's shipbuilding program in separate congressional testimony, so I will confine my remarks today to the Navy's ship maintenance and modernization process.

The Naval Sea Systems Command's role in fleet maintenance and modernization is to provide all required technical, industrial, and logistic support for maintaining, modernizing, and improving the performance of ships, ship systems, and specified non-ship systems throughout their life cycles.

My remarks will (1) provide a profile of the Naval Ship Overhaul Program; (2) report on the performance of the program; (3) discuss the key management initiatives being taken to improve ship maintenance and modernization; and (4) summarize the primary issues emerging from these maintenance and modernization efforts.

II. Profile of the Ship Overhaul Program

The Navy's current active fleet of 474 ships comprises 12 aircraft carriers, 127 submarines, 189 surface combatants, 59 amphibious ships, 61 mobile logistic ships, 21 support ships, and 5 mine warfare and patrol ships. The current reserve fleet of 45 ships includes 10 surface combatants, 6 amphibious ships, 1 mobile logistic ship, 6 support ships, and 22 mine warfare ships. Chart 1 shows our major active fleet concentrations by geographic area.

The Navy's policy is to overhaul ships in or near the ship's home port to minimize family disruption and improve crew morale, thereby retaining personnel. Other key factors considered in determining the industrial facility at which a ship will be overhauled include:

- Ship complexity (nuclear or non-nuclear propulsion and the type of weapon systems).
- Fleet operating schedule and material readiness requirements.
- Shipyard workload and qualifications.
- Shipyard capacity and capability in the home port area.
- Defense Acquisition Regulations applicable to private sector competition requirements and small businesses.

The name and location of the eight public shipyards and the major private shipyards engaged in ship overhaul work are shown in Charts 2 and 3.

Public shipyards overhaul our most complex ships: submarines, cruisers, carriers, guided missile destroyers, and frigates. A large investment in specialized skills, facilities, and equipment is required on the part of the public shipyard to overhaul and modernize these ships. Ships of lesser complexity

Chart 1

MAJOR ACTIVE FLEET CONCENTRATIONS BY GEOGRAPHICAL AREA

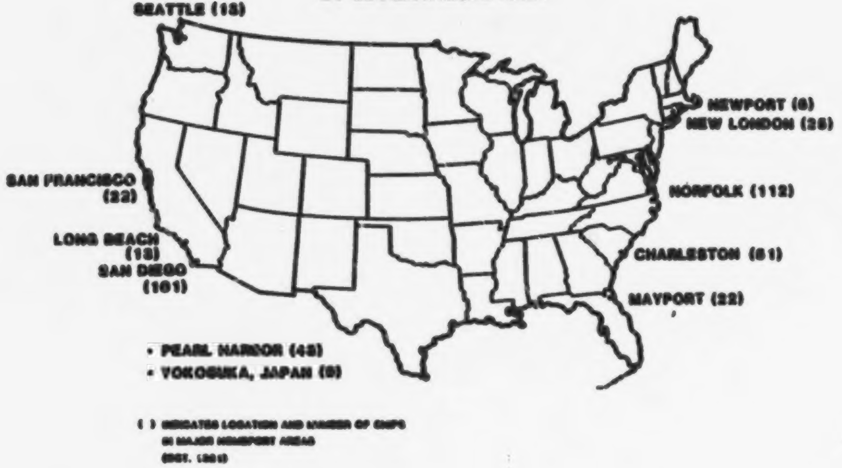

SEATTLE (13)
NEWPORT (6)
NEW LONDON (25)
SAN FRANCISCO (22)
NORFOLK (112)
LONG BEACH (13)
SAN DIEGO (101)
CHARLESTON (61)
MAYPORT (22)
• PEARL HARBOR (43)
• YOKOSUKA, JAPAN (8)
( ) INDICATES LOCATION AND NUMBER OF SHIPS IN MAJOR HOMEPORT AREAS (OCT. [illegible])

Chart 2

PUBLIC SHIPYARDS

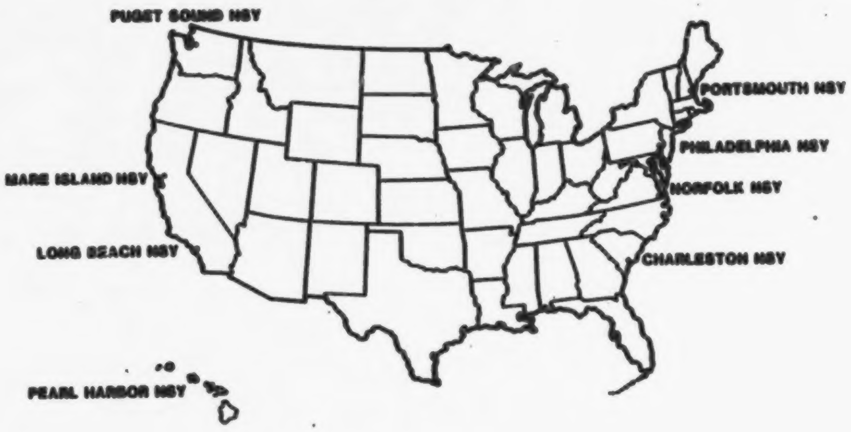

PUGET SOUND NSY
PORTSMOUTH NSY
PHILADELPHIA NSY
MARE ISLAND NSY
NORFOLK NSY
LONG BEACH NSY
CHARLESTON NSY
PEARL HARBOR NSY

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Chart 3

SHIP REPAIR INDUSTRY IN THE UNITED STATES

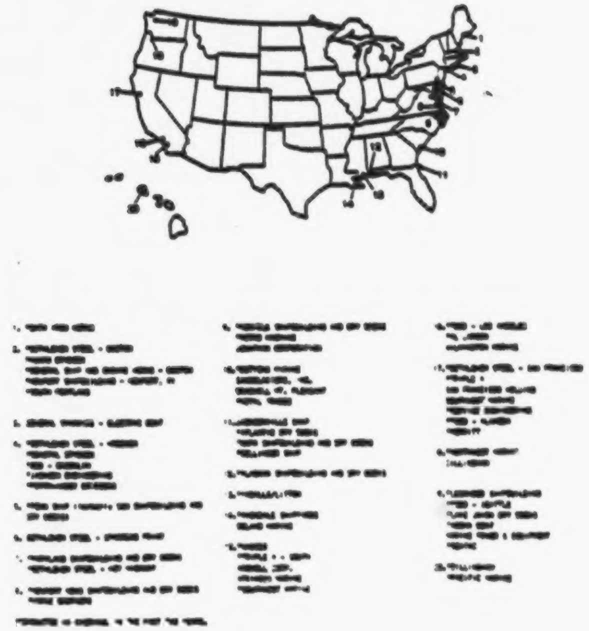

Chart 4

Repairs and Ship Alterations Accomplished During Ship Overhauls and Restricted Availabilities

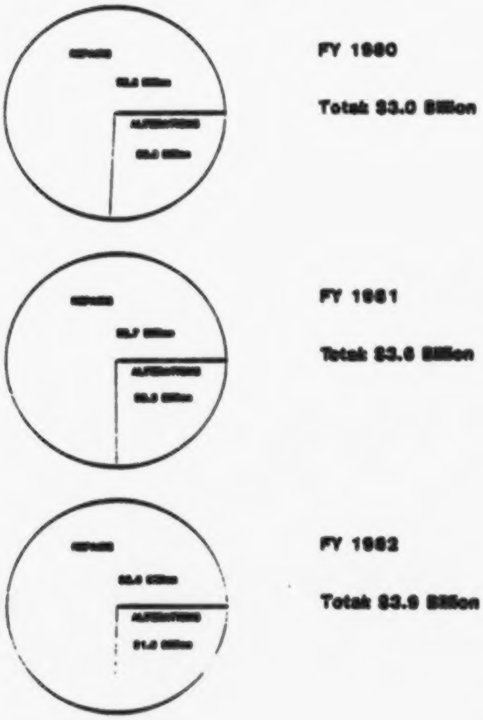

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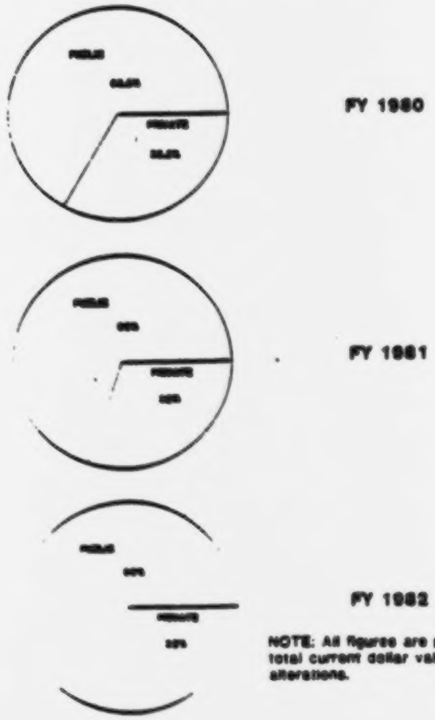
Chart 5
Repairs and Ship Alterations Distribution Between Public and Private Shipyards



NOTE: All figures are percentages of total current dollar value of repairs and alterations.

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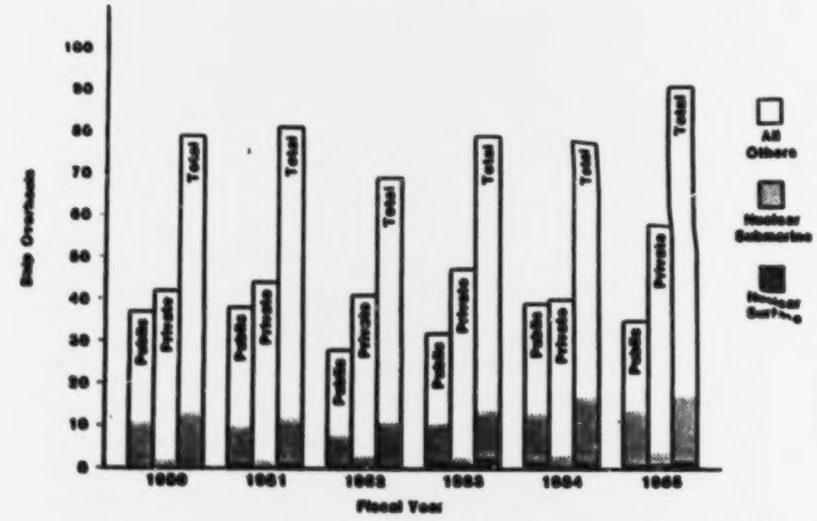
Chart 6
SCHEDULED OVERHAUL STARTS



(such as amphibious, auxiliary, and support ships) have been overhauled in private shipyards, generally. Only one private shipyard is engaged in the overhaul of nuclear-powered surface ships or submarines, currently. However, an increasing number of complex warships will be overhauled in the private sector over the next several years because of the increasing complex ship workload in the public shipyards. In 1981, seven warships with complex weapon systems were overhauled in the private sector; by 1984, this number will increase to 23.

Work on nuclear propulsion plants requires a much larger investment in facilities, security controls, technical expertise, training, and quality control than that required for fossil-fueled ships. This investment must be utilized to the fullest to be cost-effective, a demanding task in either the public or private sector. Consequently, I foresee no change in the number of shipyards, either public or private, engaged in nuclear ship work. Our projections indicate that nuclear-capable shipyards will be more heavily involved in nuclear ship work. This will be a key factor, along with the increased workload, in causing the shift of more non-nuclear, complex ship overhauls to the private sector. Private industry must therefore strengthen its capability to overhaul the complex weapon and electronics systems found on these warships.

Chart 4 shows the division of monies budgeted for ship repairs and alterations for fiscal years 1980, 1981, and 1982. The distribution of overhaul work between public and private shipyards for fiscal years 1980, 1981, and 1982 is shown in Chart 5.

Chart 6 reveals both the number of ship overhauls that were started in fiscal years 1980 and 1981, and those scheduled to start in 1982 through 1985. The data given here demonstrate that the number of ship overhauls, including nuclear submarines and surface ships, is increasing over the total 5-year period shown. Future workload projections for these ship overhauls reveal a growing workload for both the public and private sectors.

III. Performance Evaluation

An assessment of ship overhaul performance is measured by schedule adherence, cost, and quality. These performance indicators are routinely tracked.

Schedule Adherence

For all ship overhauls, we publish and work toward a completion date established prior to overhaul start. Charts 7 and 8 illustrate our schedule adherence performance from fiscal years 1979 through 1981.

In the public sector, surface ship overhaul completions averaged 30 days late in fiscal years 1980 and 1981. Submarine overhaul completions averaged 43 days late in 1980 and 82 days late in 1981. This 1981 increase was the result of a workload overload condition that existed in the public sector at that time. In the private sector, surface ship overhaul completions averaged 52 days late in fiscal year 1980 and 30 days late in fiscal year 1981. Submarine overhaul completions averaged 351 days late in 1980 and 382 days late in 1981.

Chart 7

SURFACE SHIP OVERHAUL COMPLETION TREND
(Days Late Beyond CNO Original Date - Four Quarter Running Average)

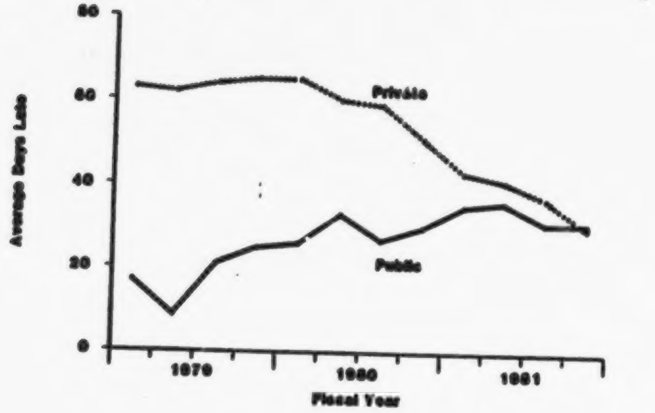
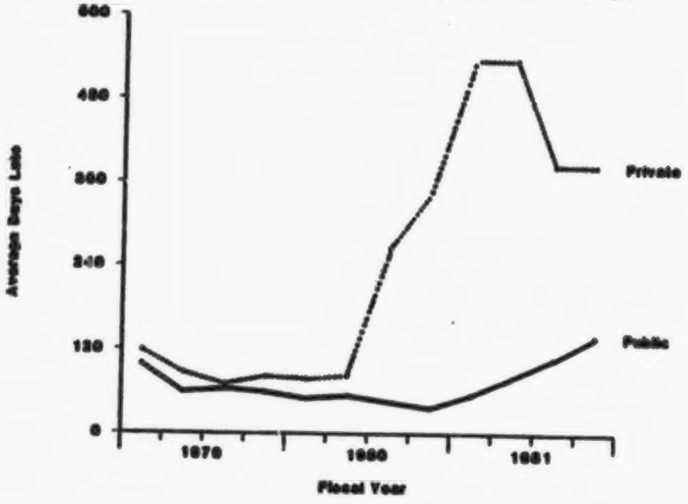


Chart 8

SUBMARINE OVERHAUL COMPLETION TREND
(Days Late Beyond CNO Original Date - Four Quarter Running Average)



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The poor private sector submarine schedule adherence shown in Chart 8 reflects a work overload experienced by Newport News Shipbuilding and Drydock Company in fiscal years 1980 and 1981, leading to excessive delays in finishing the two submarines scheduled for completion. The Naval Sea Systems Command, in conjunction with Newport News, instituted a Fleet Ballistic Missile Submarine Improvement Program in January 1981 to improve schedule adherence.

The contractor must have sufficient lead time to plan for the overhaul, order material, and acquire additional labor if needed. This must be accomplished during the interval between contract award and overhaul start. Chart 9 depicts the contract award interval trend for surface ships from fiscal years 1979 through 1981. For fiscal years 1980 and 1981, the average award interval was 66 days, compared to 45 days for 1979.

Control of Overhaul Costs

Overhaul cost increase resulting from work package growth is the second major indicator of performance. Charts 10 and 11 illustrate public and private shipyard work growth trends from fiscal years 1979 through 1981.

For surface ships, work package growth in the public sector ran 12 percent over original Navy estimates in fiscal year 1980 and 11 percent in fiscal year 1981. In the private sector, surface ship work package growth was 26 percent in fiscal year 1980 and 12 percent in fiscal year 1981. For submarines, work package growth in the public sector ran 5 percent over original Navy estimates in fiscal year 1980 and 15 percent in fiscal year 1981. In the private sector, submarine work package growth was 21 percent in fiscal year 1980 and 25 percent in fiscal year 1981.

An additional cost index maintained for the private sector is the growth in the final work package cost over the original contract award price. Chart 12 presents this index as a percentage increase of the final contract cost beyond the original contract award.

Quality Performance Parameters

A high quality overhaul is one that restores the ship to a material condition that enables it to perform reliably during the subsequent operating cycle.

A warship, with its many interrelated subsystems, constitutes the Nation's most complex weapon system. Large variations in the scope of authorized repairs and modernization on individual ship overhauls preclude measuring quality with simple indices. My judgment on the overall quality of a ship overhaul, in the context of the total amount of work accomplished within the cost and schedule constraints, is that the quality is as good or better than other heavy industries in our country today. On our major combatant ships such as submarines, the quality of our repair work is excellent. Nevertheless, I believe we must do better on some ships. We are placing increased emphasis on improving the quality evaluation of work processes and the testing of our work; initiating new quality training programs; and applying new technology to improve our industrial work process and plant equipment and facilities. Such improvements will result in a reduction of overhaul costs and duration. My goal is to put our public shipyards

Chart 9

PRIVATE SECTOR CONTRACT AWARD INTERVAL TREND
(Four Quarter Running Average)

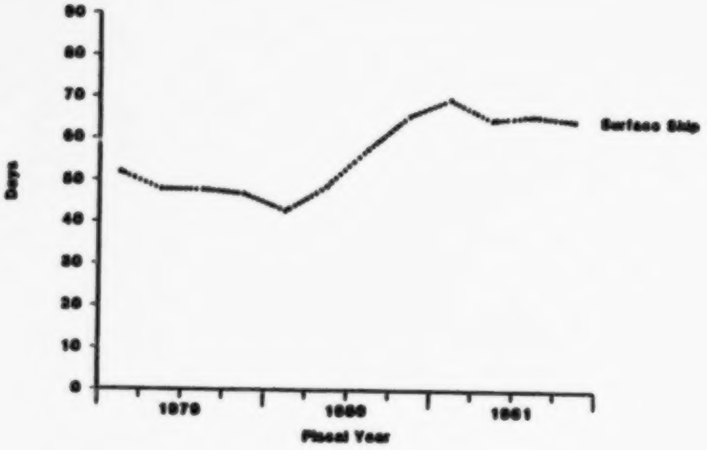

Chart 10

SURFACE SHIP OVERHAUL WORK PACKAGE GROWTH TREND

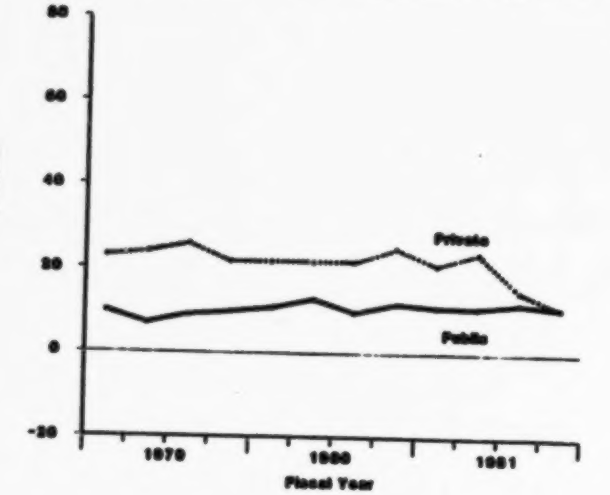

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Chart 11

SUBMARINE OVERHAUL WORK PACKAGE GROWTH TREND

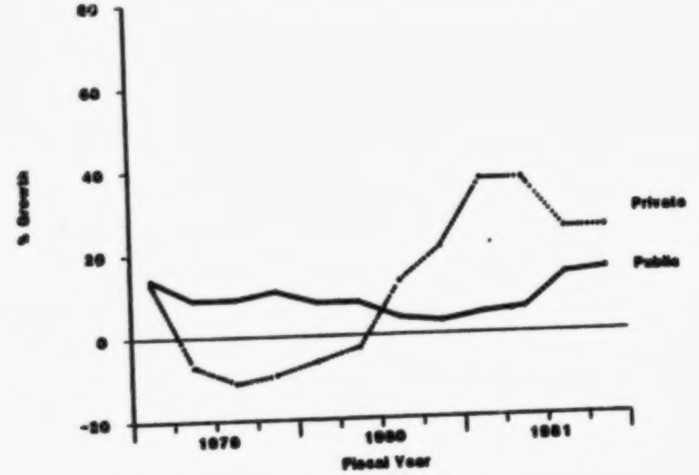
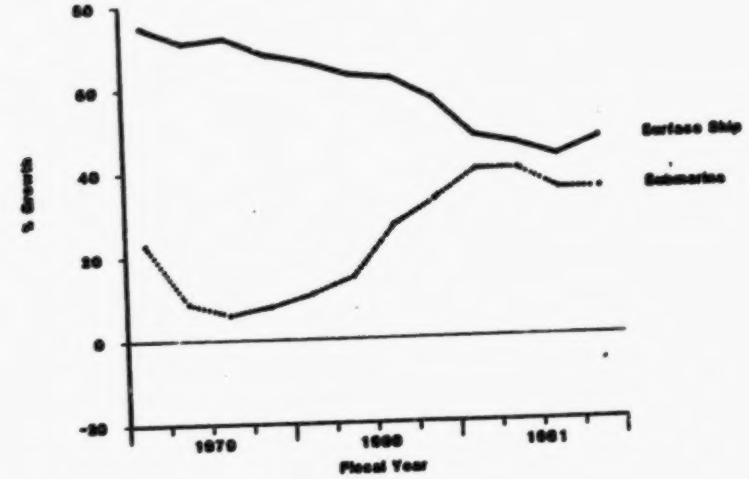


Chart 12

INCREASE IN FINAL COST BEYOND CONTRACT AWARD COST (PRIVATE SECTOR)



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in a position of national leadership in both productivity and quality industrial work.

Performance Evaluation Summary

Looking at our ship overhaul performance in the aggregate, we have made progress, particularly in private sector surface ship overhauls where we initially placed our emphasis. While we are pleased with our progress, the goals set for overhaul performance have not yet been met. For 1982 and 1983, the following ship overhaul performance goals have been established:

● Minimum interval between contract award and overhaul start in a private shipyard:	90 days
● Schedule adherence based on pre-overhaul scheduled completion date:	0 days late
● Cost growth based on pre-overhaul cost estimate:	0 percent
● Growth of final contract cost over original contract award:	10 percent

I will now briefly summarize our ship overhaul management improvement initiatives.

IV. Ship Maintenance and Modernization Performance Improvement Initiatives

In January 1981, increased emphasis was placed on improving overhaul performance by establishing the Depot Operations Improvement Program (DOIP), which I direct personally. DOIP improvement actions encompass both public and private shipyards and direct command level attention to solving identified problems in a coordinated and focused manner. The DOIP Board of Directors consists of Flag Officers who are directly concerned with improving overhaul performance. This board, which meets every 2 weeks, establishes depot overhaul performance measures, sets priorities, coordinates and manages all improvement efforts, reallocates and assigns resources, reviews program performance, and directs the institutionalization of improved operations.

Chart 13, Depot Operations Improvement Elements, explains the major focus of the DOIP. The eight program elements shown cover all facets of the program. These elements are, in turn, made up of a large number of initiatives and actions, which are each carefully defined and managed by a specific individual. At no time has the Navy invested as much of its resources in improving ship overhaul performance; nor have these efforts been so tightly focused on the areas of expected high return.

The following is a summary of major improvement initiatives, organized by program element. These initiatives are already beginning to reap benefits in terms of performance improvement.

Ship Overhaul Policy

- In August 1981, NAVSEA Instruction 4700.8 was issued, stating specific policy needed to achieve significant and rapid improvement in the per-

Chart 13

DEPOT OPERATIONS IMPROVEMENT PROGRAM ELEMENTS

Program Element No.	Title	Objective	Description
One.	Overhaul Policy	NAVSEA headquarters establishes, communicates, and maintains command-oriented ship overhaul policies, procedures, and operating guidelines.	COMNAVSEA, in assuming responsibility for leading and driving ship overhaul improvements, will provide corporate direction and resolve all inter-Command problem issues affecting these improvements.
Two.	Command and Control	Create a NAVSEA joint headquarters and field activity Command and Control system to support improved status reporting and corporate management.	The focus of this program element is to ensure both that a common methodology is employed and that a vehicle exists for the uniform reporting of ship overhaul schedule and milestone status during overhaul planning, execution, and post-overhaul analysis.
Three.	Shipyard and SUPSHIP Performance	Strengthen and enhance the roles, capabilities, and responsibilities of naval shipyards and SUPSHIPs in total ship overhaul planning and execution.	This program element involves a shift in NAVSEA policy. The naval shipyards will act as the "lead managers" for both the planning and execution of depot level ship maintenance and modernization. The SUPSHIPs will share this "lead manager" role through more comprehensive management of the ship overhaul process in the private sector.
Four.	Contracting	Improve contracting methods and procedures.	For the foreseeable future NAVSEA will continue to accomplish 30 percent or more of annual ship overhaul work in the private sector. This program element includes all initiatives that will streamline and improve contracting methods and procedures leading to improved ship overhaul performance in private industry.
Five.	Work Package Development	Formulate a more comprehensive and accurate ship overhaul work package. Apply a better engineering methodology to decision-making on equipment repair, replacement, and overhaul.	The intent of this objective is to better determine and document work package requirements utilizing proven state-of-the-art techniques for assessing and predicting shipboard equipment condition. The goal is both to avoid deferring decisions until open-and-inspect, and to eliminate uneconomical, inspection-type work items.
Six.	Industrial Availability Planning and Production	Improve, standardize, and consolidate planning and technical documentation, job work instructions, production schedules, and planning and production software.	The central thrust of this effort is to improve the quality and timeliness of the issue of software products essential to overhaul planning and execution. Additionally, the intent is to maximize the use of similar planning documents in both public and private shipyards.
Seven.	Material Support, Logistics, and Testing	Establish and implement a critical shipboard equipment material support, logistics, and testing program.	Several major shipboard systems typically constitute the critical path in an overhaul. Special resources and emphasis will be placed on developing successful overhaul processes, including material acquisition, testing procedures, ILS support, and spare parts provisioning for these systems that will positively affect total overhaul quality and schedule adherence.
Eight.	Industrial Plant	Enhance depot level manufacturing technology and processes, computer and personnel, and industrial plant.	This program element involves strengthening the Navy's depot level facilities themselves, including capital equipment, computer resources, and work processes.

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formance of surface ship non-nuclear overhauls. My purpose in publishing this policy directive was two-fold: first, to ensure that everyone in the large organization I command understands exactly what is expected in the area of ship overhaul performance; and second, to set forth clear direction for all Navy managers to follow.

- A projected end-of-overhaul cost must be established and formally agreed to before an overhaul begins to allow tightening our control over ship overhaul costs and schedule adherence. This process was developed in conjunction with OPNAV and the operating forces. Shipyard Commanders and the Supervisors of Shipbuilding and Repair (SUPSHIPs) are held accountable by me for performing each overhaul satisfactorily within the projected end-cost figures. The Fleet Commanders likewise hold their subordinates accountable for staying within these agreed-upon cost estimates.

Command and Control

- Each Shipyard Commander and SUPSHIP is now required to ensure not only that the overhaul is executed properly, but also that it is planned properly. In essence, we have placed these individuals "in charge" of each overhaul and tasked them to ensure that the other commands, which must by necessity be involved in overhauls, are executing their responsibilities properly. Prior to the start of any overhaul, the Shipyard Commander or SUPSHIP reports his readiness to start the overhaul directly to me. This constitutes a major change in our past practices and is intended to ensure that the overhaul process, which is basically sound, functions as intended. I am impressed with the positive resolve of field commanders in accepting this challenge. While it is still too early to fully appraise its impact, I sense that it is forcing individuals and organizations to carry out their responsibilities in a more disciplined manner.

Naval Shipyard and SUPSHIP Performance

- In late 1980 and 1981, a major imbalance existed in our public shipyards between the workload involved in specifically assigned overhauls and the authorized duration of these overhauls. I therefore authorized a one-time downloading of the public shipyards, which resulted in five ships going to the private sector for overhaul and a delay in the start of several other overhauls. To preclude a recurrence of this problem, a more rigorous and integrated workload and workforce scheduling system has been developed. This action, coupled with actions taken by OPNAV and the Fleet Commanders to ensure that the work on a given overhaul can be accomplished within the authorized overhaul duration, will improve schedule performance.
- Audits of ship overhaul and planning yard performance were conducted, resulting in an improved understanding of some fundamental problems and operational improvements. This audit process is being strengthened during the first half of 1982 and will be focused on ensuring implementation of new ship overhaul policies in the public shipyards and SUPSHIP offices.

Contracting

- The Navy has made a significant change in surface ship contracting techniques during the past several years. Traditionally, the Navy utilized an

Invitation For Bid (IFB) and awarded fixed price overhaul contracts on the basis of the lowest price. In the past 2 years, the Navy has increased its use of formal source selection procedures on complex, large dollar value overhauls (i.e., Requests for Proposal (RFPs)), in which prospective contractors submit technical proposals as well as price proposals. Both factors are considered in selecting the overhaul contractor. This change is a result of GAO recommendations and reflects the fact that more complex ships are entering the private sector for overhaul.

Under the RFP process, the Navy is also making much greater use of multi-ship and cost-type contracts. For example, NAVSEA recently awarded a contract for the overhaul of four Spruance Class destroyers. The contract type being utilized in most of the multi-ship contracts is a Cost Plus Award Fee (CPAF) contract, in which the contractor is ensured a 3-percent profit. However, the contractor is given an incentive to earn an additional 1- to 10-percent profit by his performance in three specific areas: cost, schedule, and technical compliance. While no overhauls have been completed as yet under a CPAF contract, early indications from the first two contracts are encouraging.

Another new contracting approach initiated recently has been the two-phase negotiation process. Like the formal source selection process, contractors submit technical proposals for Navy review. Once a determination is made as to which proposals are technically acceptable, the Navy awards a fixed price contract to the contractor submitting the lowest price offer.

Concomitant with the increased use of RFPs, the NAVSEA Surface Ship Overhaul Acquisition Branch was created in November 1980 to provide consistency and equity in the RFP process. To date, this branch has awarded eight contracts for the overhaul of 13 ships, with an average interval of 158 days between contract award and overhaul start.

- In July 1981, we implemented a solicitation area policy to support the CNO's objective of performing ship overhauls in or near a ship's home port. The long-term effect is expected to be an increase in private sector industrial capacity near major home port areas. In fact, the industry is already increasing its capability in areas of heavy fleet concentration such as San Diego, California; Norfolk, Virginia; and Jacksonville, Florida.
- In April 1981, we conducted our first annual Private Sector Overhaul Planning Conference to develop a comprehensive corporate plan for future private sector overhauls. This plan has been given to private industry to help them in their long-term planning. This increased planning effort by the Navy and private contractors should lead to improved private sector overhaul performance.
- To further enhance the relationship between the Navy and the private shipbuilding and ship repair industry, my staff and I meet regularly with segments of the industry. Such meetings and other discussions with industry leaders have focused on topics such as contract administration, quality assurance, and ship work specifications. It is my view that the Navy's relationship with private industry has improved greatly during the last 12 months.

Work Package Development

- Defining the work to be performed during an overhaul requires a trade-off between (1) an inexact long-range assessment of work requirements based on historical experience in order to permit timely pre-planning and material ordering, and (2) a precise assessment immediately before the beginning of the scheduled overhaul. The second option obviously sacrifices extensive pre-planning and adequate advance material ordering. To achieve a better balance between these two options, we are pursuing four initiatives: (1) the consolidation, standardization, and strengthening of the responsibilities of the work package formulation process; (2) the development of an enhanced engineered approach to forecasting and defining work requirements; (3) improvements in technical specifications; and (4) improvement in the availability of critical repair material from the Navy Supply System.

- Since the introduction of port engineers into the Navy and the development of the Combat Store Ship (AFS) Phased-Maintenance Program (AFSPMP) in July 1980, the port engineers' authority and responsibility have gradually expanded. They are currently, the key individuals, responsible for the direction of all Atlantic Fleet (LANTFLT) AFS availability planning, including the chairing of work definition conferences. Analyses conducted to date show that the Navy's port engineer concept of maintenance management offers promise in reducing ship maintenance costs for selected types of Navy ships. Although this concept is not an exact replica of the commercial concept (Navy port engineers do not have contracting authority like their commercial counterparts), it is proving workable. Moreover, expansion of the phased-maintenance concept, which includes the use of port engineers, is planned for Pacific Fleet (PACFLT) AFSs (homeported in CONUS), all replenishment oilers, LANTFLT landing ship docks, and LANTFLT amphibious transport docks.

- Although the AFS Phased-Maintenance Program is relatively new, there is enough data to support certain preliminary conclusions as to the program's success. Assessment of Atlantic Fleet AFS performance since these ships entered the Phased Maintenance Program reveals the following:

  — Schedule Adherence. The first two private sector phased-maintenance availabilities (for the USS SAN DIEGO (AFS-6) and the USS CONCORD (AFS-5)) were completed 1 week and 1 day early, respectively. The private shipyard has demonstrated the capability to support the program and a corporate commitment to its success. Based on deployment information gathered thus far and out-year projections, the prospects for achieving enhanced stability and consistency in the operation and maintenance schedule are favorable, and a slight improvement in ship availability is indicated.

  — Maintenance Costs. For fiscal years 1980 and 1981, actual depot level maintenance man-day expenditures, when compared with the projected maintenance costs that would have been incurred without the program, reveal a savings of 18,185 man-days. Also, the projections for fiscal years 1982 through 1985 show a potential savings of 44,919 man-days, if the AFSs continue under phased maintenance. Intermediate level man-day expenditures under phased maintenance are essentially the same as before phased maintenance.

- Material Condition. No degradation has occurred in the material condition of the Atlantic Fleet AFSs, while the fleet derived the benefits discussed above.

Industrial Availability Planning and Production

- We have developed a baseline model of the overhaul planning and execution process. This model, which includes specific top management control events and milestones, should lead to improvements in the planning and execution process, an upgraded reporting system, and development of a comprehensive training program.

- The Fleet Modernization Program (FMP) is designed to improve the mission capabilities of existing ships in countering both current and projected enemy threats. The modernization program also installs safety, reliability and maintainability, and pollution abatement alterations.

  The FMP has been effective in upgrading the fleet's military capabilities and overall readiness. Approximately 2,500 alterations are being installed annually, with the number of completed alterations closely approximating the number originally programmed. Although some alterations have had to be deferred due to schedule changes and material delivery delays, the FMP is essentially being carried out as planned.

  This complex program is constantly being monitored to identify weaknesses and initiate corrective actions to improve its effectiveness. Current efforts are being focused on reducing alteration deferrals and improving material management. Actions being taken include:

  - Initiating Fleet Verification Conferences to review the status of ship alteration packages 13 to 15 months prior to the start of overhauls.
  - Improving tracking programs to ensure integration of procurement and installation processes.
  - Improving the timeliness and quality of technical guidance provided to installing activities.
  - Improving alteration cost estimates by ensuring that return cost information is available.
  - Improving alteration material management by emphasizing proper ordering procedures and providing greater visibility and use of shipyard material to supply system managers.
  - Publishing a new Fleet Modernization Program (FMP) Management and Operations Manual, which consolidates all Navy program policy and practices guidance in a single manual.

  The FMP continues to function as planned, despite program constraints such as escalating costs, extended periods between overhauls, schedule changes, and budget perturbations.

  An example of ongoing modernization efforts in fiscal year 1982 is the major upgrading of combat systems in cruiser and destroyer class ships, including the installation of new detection radars, modification of tactical data systems, and development of greatly improved engagement capabilities through the installation of TOMAHAWK, HARPOON, and other advanced standard missiles. Similar mission readiness improvements are being accomplished aboard other types of fleet units.

Material Support, Logistics, and Testing

- A combined NAVSEA, NAVELEX, and NAVSUP task force completed an extensive evaluation of material problems and issued series of recommended improvements. I have initiated action to establish a project team to expedite the implementation of these recommendations.
- A material protection capability was implemented in the Navy Supply System for centrally procured ship alteration material. This system will result in increased alteration material availability.
- Integrated Logistics Support (ILS) requirements have been redefined to ensure that ships are fully provisioned upon overhaul completion and provided with all required shipboard equipment maintenance and operation manuals.

Industrial Plant

- The Congress has responded favorably to the Navy's requests for shipyard modernization funding. However, these requests have been constrained because of the Navy's overall priorities and existing budgetary limitations. The need to allocate these limited resources to the best advantage of the Navy as a whole precludes modernization of the public shipyards at the pace that is most desirable. Nevertheless, increased funds will be allocated for shipyard modernization as funding permits.

  The acquisition of new industrial plant equipment may be accelerated by the OSD's decision to acquire this equipment (beginning in fiscal year 1983) through the Naval Industrial Fund rather than by appropriated funds, as in the past. The budget targets for industrial plant equipment acquisition in fiscal year 1984 and the following years are approximately 5 percent of estimated gross annual shipyard revenues, although the fiscal year 1983 budget will fall substantially below this target for the reasons mentioned above. The 5-percent annual equipment investment figure is a generally recognized and accepted criterion in private industry. This level of investment will ensure plant modernization and enable the Navy to benefit from new manufacturing technologies and processes.

Summary

The initiatives noted above to improve the overall process are extensive, but they are being closely coordinated and managed at the highest levels of NAVSEA. While the full impact of these initiatives will not be felt until the 1983 to 1984 time frame, all signs indicate that we are on the right track in our improvement efforts.

V. Future Naval Ship Maintenance and Modernization Industry Issues

As we progress toward a 600-ship Navy, we must develop a strategy and detailed plan that will support both the current and future ship maintenance and modernization needs. Our fleet maintenance and modernization strategy is composed of the following elements.

General Strategies

- All ship repairs and alterations will continue to be performed by three maintenance support levels:
  - Organizational (Ship's Force).
  - Intermediate (tenders and Intermediate Maintenance Activities such as Shore Intermediate Maintenance Activities and Naval Sea Centers).
  - Depot (public shipyards and private shipyards under the Supervisors of Shipbuilding and Repair (SUPSHIPs)).

  Depot level maintenance is maintenance requiring a greater industrial capability than that possessed by either organizational or intermediate level activities. It is normally accomplished during regular overhauls, Selected Restricted Availabilities, Restricted Availabilities, or Technical Availabilities. Depot level work is authorized only when organizational or intermediate level maintenance activities do not have sufficient time or manpower; the work is beyond the capabilities of fleet maintenance activities; or when it would result in split responsibilities between fleet and depot maintenance activities.
- The assignment of a ship to a public or private shipyard is based upon fleet-wide material readiness and operational requirements, technical quality considerations, and workload capacity considerations.
- Maximum effort will be made to perform overhauls in or near the ship's home port.
- Only qualified shipyards will be considered for overhaul assignments.
- Nuclear-powered ship overhauls will be assigned only to nuclear-qualified shipyards.
- Solicitations for the private sector will be governed by the Defense Acquisition Regulations and other applicable procurement regulations.

Public Shipyard Strategies

- Public shipyards are the nation's principal asset for the depot level overhaul of our highest priority capital ships and nuclear-powered ships. They embody the principal industrial capability for repair of battle damage during war and major voyage repairs during peacetime. Paramount consideration will be given to maintaining this capability to meet the current requirements for material readiness and future battle damage repair.
- Overhaul of nuclear-powered ships, aircraft carriers, and complex surface combatants will receive first priority for accomplishment in public shipyards.

- In accordance with the CNO's strategic and operational requirements, the eight public shipyards are strategically located (four on the Atlantic Coast and four on the Pacific). These shipyards are to meet the following requirements:
  - Two shipyards on each coast must be capable of repairing aircraft carriers.
  - One shipyard on each coast must be capable of repairing surface nuclear ships.
  - Three shipyards on each coast must be capable of overhauling nuclear submarines.
  - Three shipyards on each coast must be capable of installing, maintaining, and checking sophisticated electronics and missile weapon systems.
  - All shipyards must serve major home port and operating areas.
- The eight public shipyards are expected to serve the needs of the fleet for the foreseeable future. The fiscal year 1983 program is executable within the current personnel limitations established for the public shipyards. It is necessary to increase public shipyard personnel by approximately 2 percent from 76,335 to 78,125 to accommodate the fiscal year 1984 program.
- We will pursue a vigorous program to upgrade and modernize public shipyard plant equipment and facilities.
- The Navy is not currently planning to undertake new ship construction (either submarine or surface ships) in the public shipyards. However, we do not rule out this option in the future.

Private Shipyard and SUPSHIP Strategies

- The Navy will continue to accomplish a minimum of 30 percent of ship maintenance and modernization work in the private sector.
- The fiscal year 1983 program is executable by the currently assigned numbers of SUPSHIP personnel. To support the larger private sector workload for fiscal year 1984, SUPSHIP employment must increase 10 percent, from 4,411 to 4,823 personnel (along with the requisite funding), to properly contract for and manage the private sector repair and new construction workload.
- Ship overhaul contracts to private shipyards will consist primarily of work on surface combatant ships that cannot be accommodated by public shipyards and work on amphibious warfare, support ships, and service craft.
- Ships assigned to the private sector for overhaul will be overhauled in their home ports to the extent that sufficient competitive industrial capability and capacity allow.
- Multi-ship procurements will be used, when appropriate, in order to: provide incentives for shipyard improvements and capital investments; take advantage of a learning curve; gain economies in material ordering; and

achieve other benefits inherent in this process. Small business set-asides will be used in accordance with Defense Acquisition Regulations. Contract awards under formal source selection criteria will emphasize technical and managerial capability in conjunction with past performance. Private sector overhaul planning will encourage development of the more capable and better performing segments of industry that can meet the Navy's requirements.

- The Navy is committed to strengthening old and opening new lines of communication with the private sector to improve our relationship and the overhauling of our ships. Navy workload planning documents will be provided annually to private industry to guide them in developing their business plans. Better cooperation between the Navy and private industry in ship overhaul planning and execution will both improve fleet readiness and help strengthen the ship repair industry.

VI. Summary Message

I have endeavored today to provide you with an accurate assessment of our progress over the past year in improving ship overhaul performance. I believe we have made substantial improvements, particularly with surface ship overhauls in the private sector. We are moving in the right direction. The improvements we have achieved thus far have strengthened our resolve to achieve our stated performance goals.

The Congress can be instrumental in our efforts to improve our overhaul performance (and consequent military readiness) by continuing to provide strong support of:

- Our public shipyard modernization plan.
- Our requirement for sufficient numbers of public shipyard and SUPSHIP employees to properly maintain our nuclear fleet and combatant ships.
- Our efforts to provide incentives to the private sector to develop and maintain the skills and facilities required to effectively handle the increasing number of complex ships being assigned to the private shipyards.

Mr. **Bennett**. I think we are going to start on the 5-minute rule right now.

I want to congratulate both you and the Secretary on your dedicated efforts to solve some of the problems of the past. This hearing this morning is kind of broad. A lot of different things have come up. I think I would like to talk mostly about this question of the leasing of the ships. I don't know who wants to answer this, whichever.

Start my 5 minutes running over there. When does the Navy expect to have specific cost information on leasing that is comparable in quality to the budget estimates submitted for ship construction, or do you ever think we can do that?

Mr. **Sawyer**. Well——

Mr. **Bennett**. I say, do you ever, because you said there was a tax problem that is real hard to come by.

Mr. **Sawyer**. Of course, when we get the best and final, sir, these will essentially be similar to firm fixed-price numbers.

We are talking now about executing a lease on definitive terms and conditions. It would be higher than the normal budget quality we would submit or go forward on.

We are in the process now of making the final technical evaluations. Then we will go into the best and final process.

Mr. **Bennett**. I noticed you said there was a problem about the tax that would be different for every company.

I think that is what you said. I would assume that would be so. Wouldn't there be some way to get a median or average or something?

We really do have to figure out which is going to be the most economical, and taxes do have a bearing on that.

Mr. **Sawyer**. Some of that depends on the current legislation, whether somebody can actually trade his tax loss off to somebody else, and all of that.

Mr. **Bennett**. I think that is going to go, but I am not sure.

Mr. **Sawyer**. I have heard that might be the case. Basically, many of the people that we are dealing with are not necessarily in a profitable situation. I think this is one of the real points, why I would like to use the program; again, provided that the numbers show—I can't talk much about it, unfortunately, today, because we are in the source-selection final process as to the specifics, but we are encouraged. The numbers basically appear to track reasonably well with the Coopers & Lybrand study.

We expect in the final negotiations to get the prices down more. Provided the numbers show the validity of the concept, I think dealing through the long-time charter is a better way to do it because it helps people who otherwise are going to be closing down their services and operations.

Mr. **Bennett**. What was that? You thought it would be better? The result I heard, what was the predicate of your sentence?

Mr. **Sawyer**. It would help people who otherwise——

Mr. **Bennett**. What is "it?"

Mr. **Sawyer**. The charter approach, sir, as opposed to acquiring the ship on sort of a distress fire-sale basis.

Mr. **Bennett**. What interest rates do you use to conclude leasing is less costly than purchasing?

Mr. **Sawyer.** In the Coopers & Lybrand study, as I recall—and it has been a long time since I reviewed it—it was to use a range. If the interest rates are high, and, as I recall, the break point was like 14, 15 percent, it becomes a nonstarter. That was using a constant discount.

Mr. **Bennett.** Nonstart for the leasing arrangement?

Mr. **Sawyer.** Yes, sir.

Mr. **Bennett.** Since it is over 14 percent, we are not going to get started.

Mr. **Sawyer.** The question is, what they negotiate, of course, on the basis of a long term, and with a firm commitment.

Mr. **Bennett.** What will the term be? Have you decided what the term is going to be? Will there be an option to purchase?

Mr. **Sawyer.** I think that is still privy to the negotiations. It would certainly be 10 years or something greater than the 5-year charter for these ships. Whether we go out to the full 20 as a long term or do it on the basis of a long term with options, these are still matters to be negotiated.

Mr. **Bennett.** Chairman Daniel.

Mr. **Dan Daniel.** Thank you, Mr. Bennett.

The followup question I wanted to ask a moment ago has to do with the goals you have set, Admiral Fowler, which I think are rather ambitious, and I applaud you for it.

How do you intend to get down to this 10 percent you mentioned on page 17? What are you going to change?

Admiral **Fowler.** The main emphasis is to define the work package early on so that we know what work is going to be done.

If we do that like 6 months before an overhaul starts, there obviously will be things that crop up that were not anticipated as a result of the ship operating from that period down until the time it arrives in the shipyard.

Some people think we can't achieve that. I have had the president of——

Mr. **Dan Daniel.** I think you can.

Admiral **Fowler.** I think I can, too. I think we ought to.

I had the president of one of the very good yards in the country say you are not going to get those low bid prices any more if you do that. I said I don't want the low-bid buy ins. I want the right price for the job, and so we have got some problems in the private sector.

We have a different set of problems in the public sector.

In any event, our major effort is to try to utilize those techniques which we have proven on other ships. We proved good techniques in our submarine engineering operating cycle program.

We extended out the period of time between overhauls of submarines significantly, and analysis that I made a while back showed—of course, these things are always kind of suspect and subjective to some extent—but it did show that over a long period of time by extending the overhauls out as we have, increasing the interval between overhauls, basically, we have said—created more operating hours in the ship and we have cut down the cost of our total maintenance work.

So those are good things to do. We know how to do them.

We are applying them across the board.

Mr. **Dan Daniel**. What is the box concept and its advantages? I have heard that term used.

Admiral **Fowler**. The box concept is one that says an overhaul has a certain duration, a certain length, so many days.

There are so many man-days of work that you can spend during that overhaul, so there is an average number of man-days. That length of overhaul and the number of man-days creates a box. You can equate man days to dollars if you like.

We try to overhaul that ship for that length of time and for that amount of dollars as a target. If we can't stay within that because there is work that needs to be done that is going to either take longer or take more man-days so the average cost goes up and so forth, then we kick that on up to a higher level for decision to make sure we really need to do that.

We can defer some work to another period of time and so forth. It is very important, as I see it, for us to stay within the duration of an overhaul and the interval in between overhauls, because the entire Navy operating cycle, the deployment of ships, everything else is keyed to those basic planning times.

Once we start to extend overhauls and disrupt the cycles, services that are planned, training, crewing up, all kinds of things——

Mr. **Dan Daniel**. Stopping and starting is terribly costly, isn't it?

Admiral **Fowler**. It is indeed.

Mr. **Dan Daniel**. Would you expand on those two for the record?

[The following information was received for the record:]

OVERHAUL COST/SCHEDULE BOX

The more stability and discipline we can achieve in planning and executing overhauls, the better job we can do in achieving our cost, schedule and quality objectives. This in turn results in improved fleet readiness and making more ship operating time available to the Operation Commanders. Establishing a cost and schedule "box" within which to accomplish the overhaul is a principle technical we now use on all overhauls to better discipline the overhaul process. Establishing the "box" prior to the start of the overhaul makes readily visable the parameters we expect all those involved with the overhaul to remain within. It forces us to ensure that only truely necessary work is undertaken and that we endeavor to ensure that it is accomplished in the shortest, most cost effective manner. If in the course of planning and executing an overhaul, the managers find they cannot stay within the "box", the problem is automatically elevated in the Chain of Command and additional expertise is brought to bear on solving the problem.

Mr. **Dan Daniel**. Mr. Secretary, I have a rather involved observation here. It has to do with your statement. Mr. Chairman, if you will bear with me, I would like to go through it because it has several points that bother me in the statement.

On page 2 you seem to be discussing the use of 1982 O. & M. funding that was not authorized by the Congress.

This committee's position has been and remains that unauthorized funds should not be obligated to expended specific prior approval. Maybe you have a good explanation of that. Maybe we are wrong on that.

If we are, tell us.

Second, except for the $8 million for TAKX, you seem to be proposing to use the rest of the $60 million for purposes that were never previously presented to the Congress or justified as part of the 1982 request.

It seems to me, Mr. Chairman, that this approach is just the opposite of how the process is supposed to work.

The Department of Defense justifies the money it requests and Congress authorizes and appropriates it. We have never operated on the basis of providing the money and DOD retroactively justifying it. I think this starts a bad precedent and a suspect procedure if it were to approve it.

Maybe—again maybe you are right, maybe we are wrong. If we are, tell us.

The other thing that bothers me is the phrasing of the fact sheet provided to the committee on these initiatives in many cases there are terms, like preliminary information requirements are being firmed, and input is being evaluated. This kind of uncertainty seems to be exactly what is wrong with the whole TAKX issue.

Why don't we get back to the established procedure and have the Navy request funding after it has clarified these points and provided satisfactory justification? Why don't we do it in a supplemental rather than going ahead without the information that we in the past have required before we approve certainly a bold concept such as this.

Would you respond to those points?

Mr. SAWYER. With regard to—if I can remember them all, sir—the earlier point as to the statements made in my record on how we are going to utilize funding in fiscal year 1982, I believe both for SL-7's——

Mr. DAN DANIEL. The first one had to do with it not being authorized by Congress.

Mr. SAWYER. I clarified that in my verbal remarks in pointing out—assuming we were authorized, that we would proceed with these programs. These programs currently are on hold.

Mr. DAN DANIEL. OK.

Mr. SAWYER. Including—I might just add, we have one program—the hospital—that is really quite a high priority in my opinion, and we have the program on hold.

I have authority from the Office of the Secretary of Defense to keep the program on hold pending authorization for that. I personally feel, sir, that it would be very desirable if we could get the hospital facilities deployed along with the bombs and ammunition for our troops.

Your last point, sir—could you say it again? Your last question?

Mr. BENNETT. He dealt with the fact you have so many uncertainties like future inputs. He wondered why you wouldn't proceed the way we usually do and come up here and say you want to do it and make a firm reason so we won't be authorizing something that has not been thought through.

Mr. DAN DANIEL. That was the point.

Mr. SAWYER. I think that is a good question. I think, as I tried to point out in my remarks, that this is a rapidly moving target, to some extent like the hospital program and the ammunition supplies.

The Military Sealift Command is a service-oriented operation. It basically responds—I guess logistics is something like—it all flows downhill. Other requirements are denigrated. We have to get the ships, do it quickly and on time.

In their normal operation, of course, they have their industrial fund by which they are able to handle flexibly and rapidly changing requirements. Actually I think the programs that I have outlined to you today have been items that we have been discussing with staffs of this committee and the Senate Armed Services Committee for a period of some time now.

Mr. **Dan Daniel**. The other point I raised, if I may be permitted, Mr. Chairman, what are you going to do with the $52 million—you are requesting $60, but only $8 million for the TAKX. That looks to me like money looking for a cause.

Mr. **Sawyer**. Three of the programs I have outlined today we would hope to be able to use a portion of those funds. The rapidly deployable medical facility program will require a ship under charter at about $13 to $14 million annually.

The pre-positioning of 30 days of ammunition for the Army requires a ship at about the same price, and——

Mr. **Dan Daniel**. Will you make specific requests then for the $52 million that you mentioned here?

Mr. **Sawyer**. We would be most pleased to, sir.

Mr. **Dan Daniel**. Please respond more fully to these concerns for the record so we can conserve time.

[The following information was received for the record:]

Mr. **Sawyer**. This issue deals with the use of the $60 million contained in the fiscal year 1982 Operation and Maintenance Navy appropriation.

Our Budget justification stated that the $60M would provide for initial start-up costs associated with charter of TAKX ships and emergent requirements to pre-position additional material. Recent OSD initiatives for the enhancement of the near-term pre-position force (NTPF) have more clearly defined the planned uses of this funding.

This definition has now resulted in the following prioritization for the fiscal year 1982 funding:

A ship containing a 1000-bed rapidly deployable medical facility (RDMF) to provide casualty care for the Marine component of the near-term pre-positioning forces costing $13M.

An Auxiliary Lighterage ship (TALS) to carry lighterage for ship-to-shore movement. We anticipate the TALS can be placed on charter this year at a cost of $14M.

Additional ammunition pre-positioning which will cost $12.2M in fiscal year 1982 including one-time sheathing and dehumidification expenses. This will allow early fiscal year 1983 deployment.

These three programs total $39.2 million. We expect these programs will be a continuing requirement. As explained, given these emergent operational requirements, the Department of the Navy requires the appropriated O&M funds previously described to pre-position additional material and support equipment. We recently received proposals for the TAKX ships and concluded that O&M funds for converted ships would not need to be expended in fiscal year 1982.

Mr. **Dan Daniel**. Thank you, Mr. Chairman.

Mr. **Bennett**. For the knowledge of the committee, the electric company tells us we are running short on electricity. That is the reason all this is done.

Mr. Whitehurst?

Mr. **Whitehurst**. Thank you. Can't blame the Navy for that.

Mr. Secretary, let me compliment you on your statement. It was very persuasive. On December 14 last year in a memorandum to the Secretary of the Navy, the Deputy Secretary of Defense, Frank Carlucci, indicated the Navy should be prepared at an early date to discuss fallback options in the event that the Congress refuses to accept and convert a charter approach for the TAKX.

There is a likelihood this might happen. What is your fallback?

Mr. **Sawyer**. Sir, let me just say this, rather than reading something my staff prepared. I am convinced that the exercise, if we have to fall back and acquire, if in fact, it turns out that that is the best way to do it—I don't think it will. We will know in another month or two.

Right now the preliminary numbers look like we are right there in the ballpark.

Assuming we have to fall off, it was a worthwhile exercise because I think we found a lot of very interesting good ships to convert out there as opposed to the new buildings.

Mr. **Dan Daniel**. Will the gentleman yield?

Mr. **Whitehurst**. Of course, I will.

Mr. **Dan Daniel**. Let the record show this member is not opposed to the leasing. All I am asking for is information upon which to base a judgment. That is all. I don't know which is the best.

I thank the gentleman for yielding.

Mr. **Whitehurst**. Mr. Sawyer, you are such a persuasive person.

Admiral Fowler, one quick one. I also want to compliment you on your statement. Your testimony is always excellent. I will say this to you. I haven't heard the horror stories in the past 7 or 8 months that I heard a year ago that prompted the hearings, so obviously things must be going better.

In my business no news is good news. I am sure you agree with this too. I am happy things are getting on the track.

I do have just one question. Would it not be more administratively effective to elevate the depot operations improvement program staff office from its current level to NAVSEA commander and staff office so that the program manager can report directly to the commander?

If not, why not?

As a corollary to that, would this not eliminate the possibility of peer influences on the conduct of the program as well as give it more direct authority to cut across NAVSEA offices in managing initiatives?

Admiral **Fowler**. What kind of influences, Mr. Whitehurst, would it eliminate?

Mr. **Whitehurst**. Peer.

Admiral **Fowler**. Peer influences?

Yes, sir, I understand the question. The answer is no, not in my judgment it would not.

I considered that a little over a year ago when I set this thing up the way it is now, and I believe that by bringing the whole influence of all of my deputies on the issues that I identify as being major that I have to deal with under my responsibilities, I get the advice and counsel of some very experienced flag officers applied to this in a way that no project manager, even though he reported directly to me, would get.

So I think I get better thought—I am a great believer in peer pressure as long as I set the direction we want to go; peer pressure to get there is a strong way of making it happen.

I think this is the most effective way to go about it. Otherwise I would not have chosen this way.

Mr. **Whitehurst**. You are in charge. Thank you very much.

Admiral **Fowler**. Yes, sir.

Mr. **Bennett**. Mr. Spence.

Mr. **Spence**. Thank you, Mr. Chairman.

Mr. Secretary, what do you think of the plans of DOD to merge the Military Sealift Command and the Military Transportation Management Command?

Mr. **Sawyer**. There has been some partial merger of functions with regard to the cargo bookings which has been in operation now for about 3 months. We understand there is a proposal which is going forward, submitted by the Joint Chiefs, urging a unified command be established to totally integrate both operations and leaving aside the Military Airlift Command which would remain as a specified command reporting to the Secretary of the Air Force.

The Secretary of the Navy and I—and the Chief of Naval Operations—have expressed a strong opposition to that proposed merger.

We feel it is unnecessary, unwarranted, and will be inefficient.

I would like to add—just to give one specific example, since there could be 50 reasons which we don't need to go through now.

As we were just talking about in our sealift programs, with the potential of new construction or conversion, such as the SL-7's or the possible chartering or possible construction of the TAKX, we have here a program where, under an integrated system reporting directly to the Secretary of Defense, we would have two Navy departments and two sources of business management voices to our shipbuilders and operators.

I think that would not be helpful. I think we understand the sea, we understand sealift. I think we have been doing a good job of it through the Military Sealift Command. I would hope that those in industry and in this Congress would agree.

Mr. **Spence**. Shifting to another area, the photo you showed us of one of those container ships without any handling equipment on it, what do you do when you get into an unimproved port somewhere where you don't have the equipment?

Mr. **Sawyer**. Right now we don't do much except hope they have a crane barge or something like that which would come alongside. It is physically possible, if you can get into a protected area. We showed here some viewgraphs of some initiatives we have planned with regard to self-sustaining capability—I think I showed the TACS ship. These would be in out years. Certainly with regard to the SL-7's what we need to do is convert them so that we have self-sustaining lift on board.

Mr. **Spence**. I didn't see those TAKX ships in the 5-year shipbuilding plan. Is that because we are going to charter them?

Mr. **Sawyer**. No, sir. I think right now this program is still being worked out. These would be ships coming out of the National Defense Reserve Fleet.

These are ships which basically have been turned in, traded in, and would be converted. There would be some money in the OPN account and accounts of that nature. It would not be in SCN.

Mr. **Spence**. Admiral Fowler, I was thinking back last year during our hearings Mr. Hood, I think it was, president of the Shipbuilding Council of America said that too much overhaul work is assigned to ship's crew. What is your thinking on that?

Admiral **Fowler**. Well, we do give the crew quite a bit of work to do during an overhaul. We have looked—we had some pilot programs a few years ago at decrewing. We looked at other ways of doing that. We think we have got a good mix of the type of work we assign the crew; and some of this results in better training for them when they see machinery opened up and put back together again.

They have an opportunity during overhaul to see things that they wouldn't otherwise have an opportunity to see.

It does amount, to some extent, to training and also helps us hold down our costs of an overhaul.

I think we are in about the right mix. Maybe Admiral Nunneley would like to add to that?

Admiral **Nunneley**. We always have some split responsibility between the industrial activity and the ship's force. It varies with the type of ship.

At the present time the submarine force is fully engaged in training and control and quality assurance of their systems. So they are assigned very little industrial work.

On some of the surface ships, a substantial work package is assigned to the ship's force, as Admiral Fowler says.

I would agree we have a reasonably good balance. I think having been an industrial facility commander, you will always get some reaction that they would like to have total responsibility, but the bill for decreasing a DDG class ship is another $10 or $12 million per overhaul.

Mr. **Bennett**. Thank you.

Mr. Dougherty.

Mr. **Dougherty**. Thank you, Mr. Chairman.

Mr. Secretary, on your testimony let me just present a point of view and then have you respond to it. Isn't it true that the MPS and NTPS program is really a substitute for a viable amphibious Navy in view of the following:

One, we only have 59 ships in the amphibious Navy. We do not have the capability today to carry a Marine amphibious force and a Marine amphibious brigade.

Two, the shipbulding plan for this year is grossly inadequate when you address the area of amphibious lift.

Three, when you start talking about the need to have lift ships to drop causeways and so on, to land this pre-positioned equipment and so on, that in effect you are saying you don't envision using an amphibious landing force which would seize a port facility, that that amphibious landing force would have its own causeways as a part of its normal amphibious landing; that, in effect, we are putting a band-aid in the sense of trying to have a conglomerate of merchant ships do the job that the amphibious Navy is supposed to do?

Mr. **Sawyer**. Congressman, I certainly think that we should do everything we can to improve our amphibious assault lift capabilities.

We are, as you know, continuing with the LSD 41 program. We have accelerated by 2 years—by 2 years—the LHD-1 program for a start next year, which is a very major initiative in terms of assault lift.

I tend to agree to one extent, that this is, in terms of the follow-on echelon, a partial substitute for what we traditionally had used when we had four more amphibious ships than we have today.

But, basically this is administrative lift and is basically supporting the fact that we don't have much of a merchant marine either.

Mr. DOUGHERTY. The fact of the matter is, Mr. Secretary, you are talking about being able to carry on these NTPS's for marine amphibious brigades in the sense of their equipment. Yet in our own amphibious Navy we can only carry the lead elements of an MAF and an MAP. So in effect we are giving more of the responsibility for amphibious warfare to the merchant marine than we are to the amphibious Navy.

When you look at that, the LSD-41 program, the LHA program, it was this committee that forced the Navy to start building the LSD-41's years before it was planned. It was this committee which funded long lead for an LHA, which is now the LHD-K. I just have had reservations about this whole concept. I continue to have it.

Let me ask you this. Have we ever run any exerçises or are you planning exercises where the near-term pre-positioning ships would be moved out to a certain point for a proposed landing exercise?

Mr. SAWYER. I would have to introduce that for the record, sir. I know the ships are deployed about every 6 months to bring the materiel back. Whether they have gone through an actual exercise, I don't know.

[The following information was received for the record:]

NTPF

Secretary SAWYER. The NTPF has a continuing exercise program which includes basic drills such as communications drills, cargo handling and exercise of material handling equipment to discharge cargo and backlog. Embarked pusher tugs are also exercised.

[Deleted.]

Both maintenance and exercise programs are continuing. The next major area for exercise participation is in updating and revitalizing convoy commodore/staff training which will involve training of commodores, reserve staff and naval control of shipping personnel at Diego Garcia.

Mr. DOUGHERTY. Is it true these ships would have to join up with some kind of escort group to get to the point they are going to?

Mr. SAWYER. I think it would be important if they went convoyed.

Mr. DOUGHERTY. Isn't it true if we had ships like AKA's and LST's that we used to have in the Navy, those ships could be at sea and moving in the directions rather than waiting to be moved out and married up with some kind of convoy escort?

Mr. SAWYER. If we had sufficient ships to carry all this materiel and pre-position it in the area, and, not be able to worry about having the flexibility and mobility of a forward deployed strategy with regard to an amphibious assault, yes.

Mr. DOUGHERTY. Mr. Secretary, you talk about mobility. There is nothing more mobile than an amphibious force at sea that can move wherever it has to move without waiting to be married up with pre-positioned ships at a predesignated location like Diego Garcia. So the greater mobility lies with the amphibious force at sea.

On leases of these ships, are these leases cancelable? Let me—if I may, Mr. Chairman——

Mr. **Bennett**. You may continue your question.

Mr. **Dougherty**. For the first time I find out we have foreign-made ships that are on lease for the maritime—the near-term prepositioning ships. How many of the 13 ships are foreign ships?

Mr. **Sawyer**. Two, sir. The *Lyra* and the *Sigma*.

Mr. **Dougherty**. Are those leases cancelable?

Mr. **Sawyer**. They are 5-year leases.

Mr. **Dougherty**. Can they be broken before 5 years?

Mr. **Sawyer**. I will have to check that, sir.

Mr. **Dougherty**. Is it conceivable we will be leasing other foreign ships?

Mr. **Sawyer**. Foreign ships converted—foreign flag built ships converted to U.S.-flag conditions and converted to the mission, yes, sir.

Mr. **Dougherty**. But the point is they are still ultimately owned by a foreign country?

Mr. **Sawyer**. No, sir. No, sir, no part of the conversion—no. We would not lease a ship from a foreign owner.

Mr. **Dougherty**. But——

Mr. **Sawyer**. The transfer of ownership is also part of it.

Mr. **Dougherty**. You are saying these two foreign ships are owned by Lykes?

Mr. **Sawyer**. These are now owned by Lykes, sir, I believe. I am sure they have the majority, over 80 percent—in other words, are legally under U.S. control.

Mr. **Dougherty**. For the record, Mr. Secretary, I would like to know that every ship we are talking about buying or leasing, or whatever, will be a ship totally and completely under the control of the U.S. Navy and not be subject to some kind of a recall by a foreign country, by a foreign company.

Mr. **Sawyer**. We will state that for the record.

[The following information was received for the record:]

U.S.-FLAG VESSEL

Secretary **Sawyer**. All ships will be U.S. flag vessels owned by a U.S. company and re-flagged prior to their being presented for charter. All ships will be under Navy control and will not be subject to recall by either a foreign government or a foreign company.

Mr. **Bennett**. Mr. Skelton.

Mr. **Skelton**. No questions.

Mr. **Bennett**. Mr. Nelligan.

Mr. **Nelligan**. Thank you, Mr. Chairman.

Mr. Secretary, you used an expression "trading in ships" before. Very quickly, what does that mean?

Mr. **Sawyer**. Basically it is a rather involved process. I am not sure I know all the ins and outs of it. Let me take a whack at it. Basically the ships in the U.S.-flag service, the vast majority, were built under construction differential subsidy over a period of some years—many of them are operated under additional operating differential subsidy. When the ship reaches the end of its useful life—and this is a question based on the book value of the ship, the length of the mortgages, et cetera, and the marketplace, generally the operator will trade that ship in to the Maritime Administration, who will buy it for some price, using CDS, under the requirement or condition that the owner trading in that ship replaces that tonnage with a new U.S.-flag ship. That is generally the conditions which are——

Mr. NELLIGAN. Is there any transfer of money here where money comes to the U.S. Government?

Mr. SAWYER. No, sir. This is generally in the case where money goes from the U.S. Government to the owner.

Mr. NELLIGAN. Admiral, you said before that in relation to acquiring ships, I believe, you don't want the low bid, you want the right price for the job; is that correct?

Admiral FOWLER. Yes, sir.

Mr. NELLIGAN. How do you know what the right price for the job is?

Admiral FOWLER. We estimate what that right price ought to be. When I said I don't want the low bid, it was in the context that that bid is excessively low.

Mr. NELLIGAN. Is that estimate done in-house?

Admiral FOWLER. Yes, sir.

Mr. NELLIGAN. When it came to determining if you should lease or should acquire or construct, why was it necessary to obtain the firm of Coopers & Lybrand?

Admiral FOWLER. I will have to ask the Secretary to speak to that. I wasn't party to that decision.

Mr. SAWYER. The major condition here, Congressman, was not the physical aspects relating to the purchase or conversion of the ships. In other words, what are called the steel or the bolts. It is more relating to the business aspects of the arrangement.

Mr. NELLIGAN. So you don't have that expertise in-house?

Mr. SAWYER. No, sir. I wouldn't say——

Mr. NELLIGAN. Why did you pick Coopers & Lybrand?

Mr. SAWYER. I really don't know, sir.

Mr. NELLIGAN. Was that put out on bid?

Mr. SAWYER. I don't know whether we talked to one or more than one outfit. Coopers & Lybrand is—I didn't bring them onboard. I know of them.

Mr. NELLIGAN. Would you please provide that information for the record as to whether it was bid, how you selected Coopers & Lybrand.

Mr. Chairman, I would like to request the record be held at this point for receipt of that information.

[The following information was received for the record:]

Mr. SAWYER. You were concerned about the reasons for selection of a consultant firm for the TAKX "charter versus acquisition" feasibility study and how Coopers and Lybrand was selected. During our on-going program review effort, it became apparent that a feasibility study concerning specific business aspects of the proposal was necessary. An assessment of various economic factors, insurance, tax laws and current business practices in the private sector was needed. The use of Coopers and Lybrand enabled us to obtain a valid and independent evaluation of the "charter vs. acquisition" scenario. We chose Coopers and Lybrand because they had both the recognized professional expertise and the ability to respond to our requirement quickly. A draft report was completed and delivered to the Navy approximately 30 days after the assignment.

Mr. **Nelligan**. Do you have any idea how much you paid Coopers & Lybrand?

Mr. **Sawyer**. Between $20,000 and $25,000.

Mr. **Nelligan**. I am concerned about the way this was done, particularly since the Coopers & Lybrand study of the program found that the Navy could charter the TAKX vessels below acquisition costs but only if most of the following conditions occur.

The IRS treats the charters as service contracts, long-term interest rates decline to about 12 percent—let's hope that is correct, but we don't know—the lessor will accept a 12-percent, after-tax return on its investment, we don't know that; the investor can reinvest positive cash flows at the rate comparable to the rate of return on this project; and the lessor and lender will accept an equity position of less than 20 percent.

I guess what I am saying is there is a lot of unknowns here, a lot of ifs. If this is done. We don't know if it will be done. I guess I can really point to the 12-percent interest rates. Isn't this a rather indefinite way based on rather indefinite information to make a decision that you go charter instead of acquisition?

Mr. **Sawyer**. We obviously, before we make the final lease, or make the final commitment, Congressman, we will have the answers to those questions, because it will be implicit in the numbers which we still receive.

Mr. **Nelligan**. Will you really have the answers to those questions until you get into it?

Mr. **Sawyer**. We are into it now.

Mr. **Nelligan**. But you don't have the answers to the questions. You are into it now.

Mr. **Sawyer**. We are not into making the lease. We haven't made the commitment with the owners. We are in the process of negotiating with the owners.

Mr. **Nelligan**. Might it be said you are waiting until interest rates go down to 12 percent before you do anything?

Mr. **Sawyer**. I am not saying that. I am saying that is the opinion of a consultant based on a look at the situation sitting inside of the hallowed halls of his consultancy.

Let me finish, please. I am a businessman. What the final numbers will tell in the construction of the negotiation will be what will be the prices and, at that time, we can look at the technical evaluation, bring Admiral Fowler's cost estimators in, and say, "Gee, what would this cost us if we converted and did the job ourselves."

Mr. **Nelligan**. So what you are telling me is you haven't made the decision, then, to charter?

Mr. **Sawyer**. We basically feel we shall charter, sir, because it looks like on the basis of the preliminary information, that it is competitive. We have not made the final decision until we see the final numbers. We are right in the process of that now and in a final source selection basis.

Mr. **Nelligan**. Thank you, Mr. Chairman. My time has run out.

Mr. **Bennett**. Mr. McDonald.

Mr. **McDonald**. No questions, Mr. Chairman.

Mr. **Bennett**. Mr. Daniel.

Mr. **Dan Daniel**. Yes, Mr. Chairman. I have several questions I would like to submit for the record.

Mr. **Bennett**. Without objection.

[The following questions were submitted to the witness to be answered for the record:]

TAKX

Mr. **Dan Daniel**. What is the Navy's opinion concerning the findings of the Coopers and Lybrand analysis of the Convert and Charter Program?

Mr. **Sawyer**. The study suggested that convert and charter strategy could be more economical and faster than purchase and convert or new construction if certain economic conditions were favorable.

Mr. **Dan Daniel**. In the Coopers and Lybrand analysis how were the $35 million acquisition cost and the $75 million conversion figure determined for the TAKX? The Study states that these figures were given to them by the Navy.

Mr. **Sawyer**. The acquisition costs of $33 million and $75 million conversion figures were provided by Navy as a nominal estimate for the costs for TAKX ship.

Mr. **Dan Daniel**. The above mentioned figures are the same figures that are associated with the acquisition and conversion of the SL-7 ships. Is this a coincidence? If not, how can the acquisition and conversion costs for these specialized ships (SL-7's) be used for the TAKX ships and the hospital ships in light of their differing missions?

Mr. **Sawyer**. The above figures are similar to those associated with the SL-7 ship program by coincidence only.

Mr. **Dan Daniel**. After the request for proposal responses have been received and evaluated, what is the earliest date anticipated for the first ship to be ready for sea trials?

Mr. **Sawyer**. It is anticipated that the first ship would be ready for sea trials by the end of fiscal year 1984 (September 1983).

Mr. **Dan Daniel**. Have any powered causeway sections or landing equipment been procured to date for these TAKX ships? If so, what is the equipment and what is its cost?

Mr. **Sawyer**. No powered causeway sections or landing equipment have yet been procured specifically for the TAKX ships. Our 1983 budget request is for 20 LCM 8's, two of which will go on each ship. $17.7M is programmed for this acquisition. Side loadable warping tugs, powered causeway stations and non-powered causeway stations are programmed for fiscal year 1983 acquisition at a cost of $21.3M.

Mr. **Dan Daniel**. If such equipment has been procured, what assurances does the Navy have that the equipment will be compatible with the ships selected from the RFP responses?

Mr. **Sawyer**. While the equipment has not yet been procured, the COR for the TAKX requires that they be able to carry on each TAKX vessel five non-powered causeway sections, five powered causeway sections, two LCM 8's and one side-loading warping tug. Consequently, by definition, the equipment will be compatible with any ships selected from the RFP responses and converted.

Mr. **Dan Daniel**. Given the troubled condition of the U.S. Merchant Marine, you are clearly in a buyer's market for the acquisition of surplus vessels which could be converted to a TAKX configuration. Why should we pursue a lease and conversion approach and lose these apparent opportunities to save millions by striking while the iron is hot?

Mr. **Sawyer**. The lease and conversion approach gives us the maximum opportunity to save millions by striking while the iron is hot since we will be able to gain control over the maximum number of ships at the earliest possible time.

Mr. **Dan Daniel**. If we were to authorize this lease and conversion approach for the acquisition of TAKX and other vessels, what control will Congress have over long-term charters once they have been entered into. Will they become yet another uncontrollable O&M cost that will end up putting pressure on discretionary, more readiness related accounts?

Mr. **Sawyer**. The exact provisions of the charters are still subject to negotiation. Whether we acquire these vessels on a long-term lease or purchase, the cost of operation and fuel would be the same and would be subject to appropriate escalation limitations and cost reviews by MSC.

Mr. **Dan Daniel**. Then I would like to make two observations for whatever they are worth. First of all, Admiral, I am terribly impressed with your statement. It is one of the most comprehensive, I think, that I have seen. I want to commend you for it.

Admiral **Fowler**. Thank you, sir.

Mr. **Dan Daniel**. I want to say to the Secretary that while I wasn't necessarily impressed with the statement, I am impressed with you. If I were looking for a man to fill the job that you now hold, you are the type of individual that I would be looking for. You have a tremendous background. I look forward to great accomplishments under your tutelage.

Mr. Dougherty.

Mr. **Dougherty**. Isn't it true the SL-7's when they are deployed would be deployed unescorted across the North Atlantic because of their speed and how would they match up against the Alfa-class Soviet submarines?

Mr. **Sawyer**. Congressman, if we are talking about an opposed transit—I guess we are assuming we are at war in an opposed transit situation—I would expect that not only the Alfa submarine but probably any one of the number of Soviet submarines with their standoff weapons would be able to reach out and sink an SL-7.

Mr. **Dougherty**. One of the problems I have had all along is that we were sold a bag on SL-7's 2 years ago on the basis of how their speed was so great they could get across the North Atlantic to reinforce Europe. That is what they were supposed to do. They were supposed to be surge vessels for the Army to reinforce Europe. Yet in view of the speed of the Alfa-class Soviet submarines and other submarines, I am just curious how we can pretend we are going to send SL-7's out unescorted across the North Atlantic? And if we are not going to send them unescorted, then their speed doesn't really mean anything.

Mr. **Sawyer**. Even if we do send them escorted, sir, let me just say that the surge lift capacity—and the ability to move the materiel quickly to any pinch point in the world—is a very strong asset. We are not just talking about moving materiel to Europe. That is why this particular surge capacity or lift is going to be based here in CONUS—in the United States—and can move to Korea.

In addition, sir, I might point out these ships aren't just earmarked for the Army. The Marine Corps has its hold on these ships, too. It is available for rapid deployment to any place in the world.

Mr. **Dougherty**. Mr. Secretary, I realize the concept didn't begin with you. I don't mean to be beating on you about it. It is something that I feel is rather flaky to be very frank with you.

Admiral, public versus private yards. I am obviously prejudiced. For the record, all new ship construction is done in private yards?

Admiral **Fowler**. Yes, sir.

Mr. **Dougherty**. For the record, you are planning to insure that at least one-third of all ship overhauls are done in private yards?

Admiral **Fowler**. Yes, sir.

Mr. **Dougherty**. From the testimony here, it is obvious that a key factor in where a ship is overhauled is where it is homeported. In view of the statement on page 22 about the CNO's policy on homeporting being a factor in deciding where a ship is overhauled, and in view of the testimony on page 28 that all shipyards must serve major homeports and operating areas, can I anticipate that you will be assigning naval vessels for homeporting in both Philadelphia and Portsmouth?

Admiral FOWLER. No, sir.

Mr. DOUGHERTY. Then it seems you are putting my shipyard and the shipyard in Portsmouth at an extreme disadvantage, Admiral. I want you to tell me why you want to do such a thing to us poor people in Pennsylvania?

Admiral FOWLER. It is certainly not my desire to disadvantage either Philadelphia or Portsmouth, but the correct answer to your question is no because I have no authority to place ships in homeport. That is a decision made by the Chief of Naval Operations.

Mr. DOUGHERTY. Admiral, maybe the CNO and the members of the Pennsylvania delegation would like to get together. This is the first time that I have seen testimony on the record clearly indicating that homeporting of a vessel was a major ingredient in deciding where that ship would be overhauled.

Admiral FOWLER. It has been a longstanding Navy policy, Mr. Dougherty, for a long time.

Mr. DOUGHERTY. It may have been, Admiral, but this is the first time I have seen it in print. Therefore, we would be most interested in having a conversation with you and the CNO on the fine facilities.

Mr. BENNETT. Aren't they taking care of two carriers there now? The *Saratoga* is there.

Mr. DOUGHERTY. *Saratoga* is there, but nothing else.

Mr. BENNETT. Isn't something else coming on after that?

Mr. DOUGHERTY. The *Forrestal.*

Mr. Chairman, nowhere——

Mr. BENNETT. Can they handle more work?

Mr. DOUGHERTY. Yes, sir. Our yard had 47,000 people working in it during World War II. We now have 10,000 people working in it. Philadelphia is a great Navy town, Mr. Chairman.

Mr. NELLIGAN. Will the gentleman yield?

On that point, maybe there is a bonanza—may I claim some time myself, Mr. Chairman?

Mr. BENNETT. Are you through?

Mr. DOUGHERTY. Yes, sir.

Mr. BENNETT. Wait just a second.

Mr. McDonald never had a chance to inquire at all. You will be right after him.

Mr. MCDONALD. Thank you, Mr. Chairman.

Admiral Fowler, I don't have any shipyards in my district and we are sort of a landlocked area. There is some discussion of developing the Coosa River Waterway up from the gulf, but that will probably be a couple of centuries. At any rate, the vice president of Bethlehem Steel in testifying before the committee I believe last year, Mr. Klinges, said that the Navy practice for negotiating contract changes during overhaul is not cost effective, and the reason for that he felt was because essential work should be authorized on the spot.

He felt that the Government was not adequately staffed for rapid processing of change orders. I was wondering if you could give me your opinion of that statement, sir.

Admiral FOWLER. Yes, sir. He is in part correct. That is a problem. You may recall that a few years ago at the time when the industry was haranguing us about claims, the Congress put a fence on 3,500 people in my supervisors of shipbuilding office. The supervisor of shipbuilding is the office that negotiates these changes by and large, particularly in the overhaul business, and to a certain extent in new construction business as well.

That constraint has been lifted by the Congress, and we have now outlived the residual constraints that carry on a few years after within the OMB and OSD and the Navy Department, as a result of a constraint of that type. Those constraints have all gone away now, I hope. I have started to increase those offices. We moved up from 3,500 to about 4,000 last year, and we are moving up to about 4,400, 4,500 this year, and I would expect to move that to a higher number in the future years.

I have simply got to staff the offices that are right there at the waterfront dealing with the day-to-day problems adequately in numbers and with the quality of people, both technical people that know how to make technical decisions and contract administrative-type people who can make the business arrangements, negotiations or estimate costs, and all that sort of thing that has to be done so that we can move the changes.

We have—and as a matter of fact, in Bath, that is one of the places that started—made arrangements to—new techniques to speed up that operation so that people right there on the spot, onboard the ship can look at a job and say that is going to cost so much, here is what we want you to do, get on with doing that, and we agree pretty quickly on the price of the thing.

I have recently had a backlog of that type in San Diego, and I sent a special team out there to take about 2 weeks. I have forgotten the number of changes, but the total dollar value was about $20 million in overhaul work where we had a backlog of changes to be negotiated that was continuing to build up.

What happens when you have that kind of situation is the yards start having an interest problem, because they are not getting paid for these changes that are not negotiated because we haven't established a price; and so they are starting to run in the hole a little bit on their financing. They are borrowing money. This makes them more irritable. The business relationships start to get a little more tenuous. So everything starts to get a little sticky.

One of the things we did there was send a special team and cleaned up the whole backlog and got it—it was amazing how the attitude of everybody changed and the day-to-day problems started getting easier and easier once we got that backlog out of the way.

We have that kind of thing. We do have a problem with the number and quality of people in our supervisors office. We are trying to deal with that. Particularly as I look to the future, as Congressman Whitehurst asked me about the 600-ship Navy of the future, this is an area of concern for me because we are going to be putting more sophisticated, complex ships into the private sector.

I am going to have to have people in these offices who are able to deal with more weapons systems and things of that kind.

I am sorry I took so much time to answer your question, Congressman.

Mr. **Bennett**. Mr. Nelligan.

Mr. **Nelligan**. Thank you, Mr. Chairman.

Just an observation, since the subject did come up during this hearing. Mr. Secretary, Admiral, 50.4 percent of the taxes of the United States come from the Northeast and the Midwest. Charlie, you are flipping your wig over there at that statement.

About 30 percent of the defense budget goes back into the same area. I think if you split off the Midwest, you will find it is even more devastating for the East. All I am saying is I think 22 percent of the population is in the Northeastern part of the United States. I, sitting on this committee, am a staunch supporter for more defense, for a stronger defense. But I am afraid you are going to lose a lot of support for a strong defense posture with unemployment in the Northeast, in my particular district, soaring at about 13 or 14 percent and going higher. I think it is the same all over the Northeastern part of the United States.

I have talked to the Secretary of Defense about this. I have talked with a number of officials from DOD and the services about this. Yet I see no sign whatsoever that any consideration is being given to the Northeastern part of the United States so far as this huge defense budget is concerned. I think—I mention it at this time because I think it is important—to you as military people who are trying to make a strong case and are making a very good case for an increased defense posture—that some consideration be given to it. Because unless you get the Members of Congress voting in your direction, you are not going to get what you want and what I think you need, and the pressures in that particular part of the country are mounting to lower the defense budget because it is not doing a thing for us.

I only say that because I think it is important to you in any consideration you can give such as Congressman Dougherty just mentioned, to maybe changing the policy. Strategically I don't think it is a good idea anyway to have them all at one place. Change that policy so the defense budget is spread throughout the United States and various districts and regions of the United States get a bigger piece of the pie.

Thank you, Mr. Chairman.

Mr. **Bennett**. Any other questions? We very much appreciate your coming. I am glad things are looking better than in the past. I have a gratitude to you for achieving that.

We will not need to go into secret session. We will meet tomorrow at 10:30.

[Whereupon, at 11:55 a.m., the subcommittee was recessed, to reconvene at 10:30 a.m., Thursday, March 11, 1982.].

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SUBMARINE WARFARE BRIEFING

House of Representatives,
Committee on Armed Services,
Seapower and Strategic and
Critical Material Subcommittee,
Washington, D.C., Thursday, March 11, 1982.

The subcommittee met, pursuant to call, at 10:40 a.m., in room 2216, Rayburn House Office Building, Hon. Charles E. Bennett (chairman of the subcommittee) presiding.

Mr. Bennett. The committee is in receipt of biographical sketches on this morning's witnesses, which will appear in the record at this point.

Biographical Sketch of Vice Adm. Nils R. Thunman, USN

Vice Admiral Nils R. Thunman became the Deputy Chief of Naval Operations for Submarine Warfare on 1 July 1981.

A native of Springfield, Illinois, Vice Admiral Thunman attended the University of Illinois and in 1950 entered the United States Naval Academy, graduating in June 1954.

Following graduation he served as a Company Officer at the Naval Academy for a short period before reporting to duty aboard the U.S.S. *Shelton* (DD 790). In 1957, he became Commanding Officer of U.S.S. *Marysville* (EPCER 857). In 1959, following completion of Submarine School, he served aboard U.S.S. *Volador* (SS490).

In December 1961, he completed Nuclear Power Training and was assigned to the staff of the U.S. Naval Nuclear Power School, New London, Connecticut. In 1963 he served aboard U.S.S. *Robert E. Lee* (SSBN 601) (Blue) and in 1964 became the Executive Officer, U.S.S. *Snook* (SSN 592). *Snook* was awarded the Navy Unit Commendation for operations in 1965. In March 1966, he reported to the Bureau of Naval Personnel, Washington, D.C. as the Assistant Program Manager for Nuclear Power Personnel.

In August 1968, he assumed command of U.S.S. *Plunger* (SSN 595) at Pearl Harbor, Hawaii. *Plunger* was awarded the Navy Unit Commendation and Arleigh Burke Fleet Trophy under his command. In August 1971, he reported to the staff of Commander Submarine Force, U.S. Pacific Fleet as the Assistant Chief of Staff for Training and Readiness. In May 1972, he reported to the staff of Commander in Chief, U.S. Pacific Fleet as Senior Member of the Naval Nuclear Propulsion Examining Board. From 1974 to 1976 he served as Commander Submarine Squadron Fifteen at Guam, Marianas Islands. Comsubron Fifteen was awarded the Meritorious Unit Commendation for operations during this time period.

Promoted to Rear Admiral in May 1976, he was assigned as the Assistant Chief of Naval Personnel for Officer Development and Distribution. Upon reorganization of the Office of the Deputy Chief of Naval Operations for Manpower, Personnel and Training in November 1978, he became Director, Military Personnel and Training Division, Office of the Chief of Naval Operations. In May 1979, he was assigned as Commander Submarine Force, U.S. Pacific Fleet and served in that position until assuming his present duties.

Vice Admiral Thunman's decorations include the Legion of Merit with three Gold Stars, Navy Commendation Medal with one Gold Star, Navy Expeditionary Medal, China Service Medal and the Vietnam Service Medal with three Bronze Stars.

He is married to the former Elizabeth Chase Caldwell of Annapolis, Maryland. They have two sons, Nils Ronald Jr. and Michael Erik.

Biographical Sketch of Rear Adm. Dickinson M. Smith, USN

Rear Admiral Dickinson M. Smith, USN, of Grand Forks, North Dakota, graduated from the U.S. Naval Academy in 1955, completed nuclear power training in 1960 and received a Master's Degree in Management from the American University in 1968. After being commissioned he served two and a half years on the destroyer *Isherwood*, then completed submarine school and served on the submarines *Gudgeon*, *Dace*, and *Sam Houston* before duty as Commanding Officer of *Scamp*. He subsequently served on the staff of Submarine Refit and Training Group, LaMaddalena and at Naval Reactors in Washington, DC. He took command of Submarine Squadron Six in Norfolk, Virginia in July 1977 and in August 1979 reactivated Submarine Squadron Eight at the close of this tour of duty. He then served as Chief of Staff to Commander Submarine Force, U.S. Pacific Fleet at Pearl Harbor, Hawaii.

He was selected for promotion to Rear Admiral in 1980 and assigned as Director, Attack Submarine Division, in the offices of the Chief of Naval Operations in July 1980.

Rear Admiral Smith is married to the former Luanne Arnold of Langdon, North Dakota and they have three children; Dickinson, Jr., Scott, and Paula.

Biographical Sketch of Rear Adm. Frank B. Kelso II, USN

Rear Admiral Frank Benton Kelso II, a native of Fayetteville, Tennessee, graduated from the U.S. Naval Academy in 1956. Upon graduation, he served on the U.S.S. *Oglethorpe* (AKA-100) prior to attending Submarine School in 1958. On completion of submarine training, he was assigned to the U.S.S. *Sabalo* (SS-302) before returning to Submarine School for nuclear power training in January 1960. Upon completion of nuclear training, he served one year on the Staff of Submarine School in the Nuclear Power Department. He was then assigned to the precommissioning crew of U.S.S. *Pollack* (SSN-603) serving on board until December 1964. He next served as Engineering Officer on U.S.S. *Daniel Webster* (SSBN 626) prior to reporting as Executive Officer of U.S.S. *Sculpin* (SSN 590) in February 1967. From January 1969 to August 1971 he was assigned as Commanding Officer, U.S. Naval Nuclear Power School in Bainbridge, Maryland. He subsequently served as Commanding Officer, U.S.S. *Finback* (SSN 670) from April to June 1972 and was assigned to the staff of Commander Submarine Force, U.S. Atlantic Fleet prior to reporting as Commanding Officer, U.S.S. *Bluefish* (SSN 675) in March 1973. From September 1975 to July 1977, he served as Executive Assistant to the Commander-in-Chief Atlantic and U.S. Atlantic Fleet and Supreme Allied Commander Atlantic. He was assigned as Commander, Submarine Squadron Seven in September 1977 serving until reporting as Division Director, Submarine Distribution Division in the Naval Military Personnel Command and Section Head of the Submarine Programs Section in the Office of the Deputy Chief of Naval Operations for Manpower/Personnel and Training in September 1978. He was selected for promotion to the rank of Rear Admiral in February 1980. In July 1980 he was assigned as Director, Strategic Submarine Division and Trident Program Coordinator in the Office of the Chief of Naval Operations.

Rear Admiral Kelso is married to the former Landess McCown of Florence, South Carolina. RADM and Mrs. Kelso have four children, two sons, Thomas and Donald who are attending Virginia Polytechnic Institute and two daughters, Mary, who also attends VPI and Kerry, who resides with her parents in Springfield, Virginia.

Biographical Sketch of Rear Adm. Edward M. Peebles, USN

Rear Admiral Edward M. Peebles, USN, Deputy Commander for Submarines, Naval Sea Systems Command is a 1955 graduate of the United States Naval Academy. Before entering the Naval Academy Admiral Peebles attended the University of Colorado. Early sea assignments included aircraft carrier and submarine duty in the Pacific. This was followed by three years of graduate study in Naval Architecture and Marine Engineering at Massachusetts Institute of Technology. The next ten years involved engineering duty in maintenance, design and construction of nuclear submarines and deep submergence vehicles. He then completed a management program at the Harvard Business School. Prior to his current assignment, he served as the Project Manager for the Trident Submarine, Naval Sea Systems Command for a period of six years. His professional associations include membership in the Society of Naval Architects and Marine Engineers and the American Society of Naval Engineers and Service as the U.S. Navy representative on the Submersible Safety Committee of the American Bureau of Shipping.

Ellen Moloney (from Boston and Cape Cod) and then Lt. Peebles were married in Woods Hole, Massachusetts in 1959. They have five children.

Mr. **Bennett**. This morning we will continue our hearings on the fiscal year 1983 Defense authorization request. the witness this morning is Vice Adm. N. R. Thunman, Deputy Chief of Naval Operations for Submarine Warfare, who will present the Navy's program for ballistic missile submarines and attack submarines.

Certainly there is no more important program than the Trident strategic missile submarine. As a result of continuing delays in the modernization of the land-based missile force, we are increasingly dependent upon the sea-based deterrent.

During hearings last year, the committee heard testimony concerning Trident construction problems at the Electric Boat Co. As a result, a Trident submarine was not authorzied in fiscal year 1982. Additional long lead funds were provided, however, in order to minimize delays in delivery of the 10th Trident, when finally authorized.

The budget request this year includes two Trident submarines and would reinstate the one submarine per year building rate. If the committee is to recommend authorization of two submarines, it must be satisfied that the problems at Electric Boat have been resolved and that this funding plan will actually result in a more orderly and efficient construction program leading to earlier delivery of needed ships.

There is also concern about the proposed program for SSN-688 attack submarines. Last year the Congress authorized long lead funding for three SSN-688 attack submarines in fiscal year 1983. The budget request as submitted includes funds for only two attack submarines.

Mr. Spence, do you wish to make a statement?

Mr. **Spence**. I have a short statement, Mr. Chairman.

I concur with the chairman's point on the two Trident submarines this year.

The fiscal year 1983 shipbuilding budget request contains only two SSN-688's instead of the three or four needed to achieve the 100 nuclear attack submarine force by the early 1990's. Undoubtedly, the high cost of front-end loading the procurement of two Trident submarines this year and two nuclear-powered aircraft carriers, has taken its toll on the options available for procurement of other vessels. I understand that the decision to only go for two attack submarines is a matter of priorities, but I hope that an upward trend toward the necessary submarine-building rate can be sustained in the remainder of the 5-year plan.

In another submarine subject area, I hope that today we can go into some detail concerning the value and utility of diesel-powered submarines. I think I essentially understand why the Navy is not now interested in diversification of the submarine force between nuclear- and diesel-powered boats. However, the pressures are growing for the Congress to consider diesel options to more rapidly increase the size of the submarine fleet. I'm not advocating that the Navy undertake diesel-boat options, but rather I am suggesting that the Navy tell us more explicitly why they are not interested in the diesel submarine options.

And finally, I hope that Admiral Thunman can give us some insight into what the future holds for improved submarine developments.

Mr. BENNETT. You may proceed, Admiral.

STATEMENT OF VICE ADM. N. R. THUNMAN, U.S. NAVY, DEPUTY CHIEF OF NAVAL OPERATIONS FOR SUBMARINE WARFARE, ACCOMPANIED BY REAR ADM. D. M. SMITH, U.S. NAVY, DIRECTOR, ATTACK SUBMARINE DIVISION; REAR ADM. F. B. KELSO II, U.S. NAVY, DIRECTOR, STRATEGIC SUBMARINE DIVISION AND TRIDENT PROGRAM COORDINATOR; REAR ADM. E. M. PEEBLES, U.S. NAVY, DEPUTY COMMANDER FOR SUBMARINES, NAVAL SEA SYSTEMS COMMAND

Admiral THUNMAN. Thank you, Mr. Chairman.

This is the first time I have had a chance to address this distinguished committee. Let me say it is an honor to be here and to talk to you about submarines.

With your permission, sir, I would like to submit a statement for the record.

Mr. BENNETT. Without objection, it is so ordered.

Admiral THUNMAN. I will proceed with a short briefing highlighting the significant points of that statement.

As you know, we have two categories of submarines, the fleet ballistic missile submarine and the attack submarine. This slide shows a picture of the SSN-688 *Los Angeles* class submarine.

I will address our attack submarine first:

ATTACK SUBMARINE MISSIONS

Forward area offensive operations against submarine, surface and land targets.
Form barriers at choke points.
Direct support of carrier battle groups.
Open-ocean area search and sanitization.
Surveillance-reconnaissance/mining/special warfare.

The Chief of Naval Operations has established a midrange goal of 100 multimission nuclear-powered attack submarines. The missions of these submarines are shown on this slide.

At the outbreak of any war, they must be capable of conducting independent offensive operations deep in enemy waters against surface ships, submarines and now land targets, with the advent of the Tomahawk cruise missile. They must be capable of forming barriers at choke points anywhere in the world to prevent the enemy's access to the open ocean with his submarines and surface ships. They must be ready to support our carrier battle groups in the areas of antisubmarine warfare and antisurface warfare. They must be ready to conduct open-ocean antisubmarine warfare so we can hold open the sealanes of vital interest to the United States.

They should be able to conduct covert special operations such as mining, surveillance, reconnaissance and special warfare, which includes the landing of swimmers or troops ashore.

To me, these are just not textbook requirements. During my tour as Commander of Submarine Force Pacific from 1979 to 1981, I observed the need for submarines to be able to conduct any of these missions, [deleted].

Upon occasion they would [deleted]. So these missions, to me, are very important for the submarine to be able to carry out.

BASIS FOR DETERMINING SSN FORCE LEVEL

MID RANGE GOAL ESTABLISHED AS 100 SSN'S

Increasing Soviet naval threat.
U.S. qualitative vs. Soviet numerical superiority.
Affordability.

Our midrange goal of 100 nuclear attack submarines, we feel, is the minimum necessary to meet the increasing Soviet threat, which as you know, consists of about 674 major warships and 390 submarines. We consider our qualitative superiority versus their quantitative superiority. Of course, as you have stated, affordability is a key issue, but we believe that the 17-nuclear attack submarines in this year's 5-year defense plan is an affordable plan.

Current SSN 688 class program

Previously authorized	39
Delivered	18
Under construction	19
Contract negotiation	2
Requested in 5-year defense plan	17
Total	56

Our current construction program, as you know, is centered on the 688-class submarine. Thirty-nine have previously been authorized, and 18 delivered. We expect delivery of three more this year.

Considering the 17 requested in the 5-year defense plan, our current goal is to build to a force of 56 688 class.

Mr. BENNETT. That is not your ultimate goal, is it?

Admiral THUNMAN. No, sir, this is just this year's 5-year defense plan.

Mr. BENNETT. The ultimate goal is 100?

Admiral THUNMAN. Yes; 100 multimission nuclear attack submarines; that is the midrange goal we have stated this year, sir.

U.S. attack submarine force composition

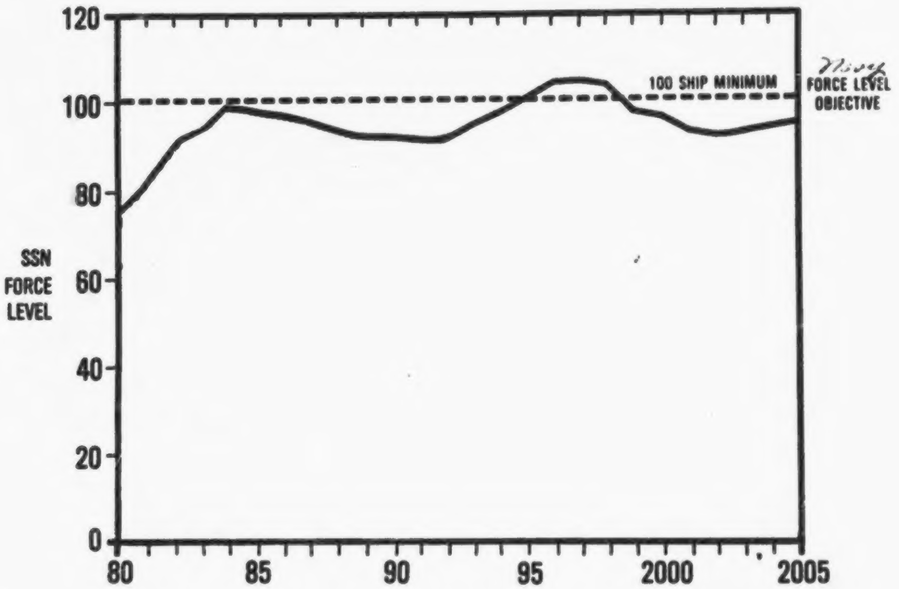
[March 1982]

SSN 688 class	18
SSN 637 class	39
SSN 594 class	13
SSN 598/608 class former SSBN's	8
Pre-594 class	10
SSN total	88
Diesel	5

This slide shows our force composition today. The 18 688 class that I have previously discussed; 39 of the *Sturgeon,* or 637 class, average age is 12 years; 13 Permit class, or 594 class, average age 17 years; 18 former Polaris SSBN's we are now operating as attack submarines, average age 21 years; 10 of the pre-594 class, average age 22 years; 5 diesel electric-submarines capable of deploying, average age 24 years.

Today's total force is 5 deployable diesel-electric submarines and 88 nuclear-attack submarines.

NUCLEAR ATTACK SUBMARINE FORCE LEVELS



This graph depicts our force level from 1980 out beyond the year 2000. As you can see, we expect to reach 99 in 1984 and then we will drop to 95 in 1987, which is the end of this 5-year defense plan. That assumes the delivery of the 17 ships currently under construction and 10 retirements.

Assuming a building rate of 10 every 3 years, and a ship's life of 30 years, we expect to reach our goal of 100 in the year 1995.

Diesel Electric Submarines

Being studied as alternative to SSN.

Diesel submarine cannot match SSN in any major category: speed, endurance, survivability, fire power, or combat systems.

Only useful in limited role of barrier operations in ice free areas not countered by intensive ASW aircraft or under-sea surveillance and must be forward based.

We continue to study the diesel electric submarine as an alternative to the nuclear attack submarine. Clearly they are not as capable in any of the major areas where we measure submarine performance: speed, endurance, survivability, firepower, or in their combat system capability. They are only useful in barrier operations, and then only when not opposed by antisubmarine warfare aircraft, or an undersea surveillance system, or in areas which contain no ice, and this assumes we would forward-base them near the chokepoint of interest.

Allied Diesel Submarine Force Levels—1982

Atlantic:	
Canada	3
Denmark	6

France	19
Germany	25
Netherlands	6
Norway	15
Portugal	3
Spain	9
United Kingdom	16
Total	102
Mediterranean:	
Greece	11
Italy	12
Turkey	14
Total	37
Pacific:	
Australia	6
Japan	14
Total	20

We depend on our allied diesel-electric submarine force levels, and as you can see on this slide, they have a combined total of more than 150. These ships are well suited for barrier operations. They build diesel-electric submarines because they are ideally suited geographically for the use of those ships. Our forward strategy, which as you know includes flexibility, mobility, and offensive combat on a worldwide basis, dictates that we should build nuclear attack submarines.

The area of research and development is very important to our attack submarine program.

We feel we must have technological superiority to counter the Soviet's numerical superiority. The objectives of our program are shown on this slide.

First, we feel it is essential that we retain the acoustic advantage. Let me explain the acoustic advantage. If the combination of our sonar capability and our sound quieting is such that we are better than the Soviets' sonar capability and sound-quieting, we will detect him before he detects us. If we do, then we have an acoustic advantage.

Today we have [deleted] acoustic advantage, [deleted].

Other objectives are to acquire weapons systems which can destroy the threat, and we must be capable of countering the threat in any situation: [deleted].

RESEARCH AND DEVELOPMENT PROGRAM OBJECTIVES

Retain the acoustic advantage.
Acquire weapons capable of destroying the threat.
Retain the ability to counter the threat in any theatre.

This shows some of our most significant research and development programs.

The advanced combat system, long-range sonar, machinery improvements and submarine development are all directed toward retaining the acoustic advantage.

The advanced capabilities Mark 48 torpedo, the standoff weapon, the vertical-launch system and Tomahawk weapon are directed toward meeting our weapons objectives, to destroy the threat.

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Finally, all are directed toward countering the threat in any environment.

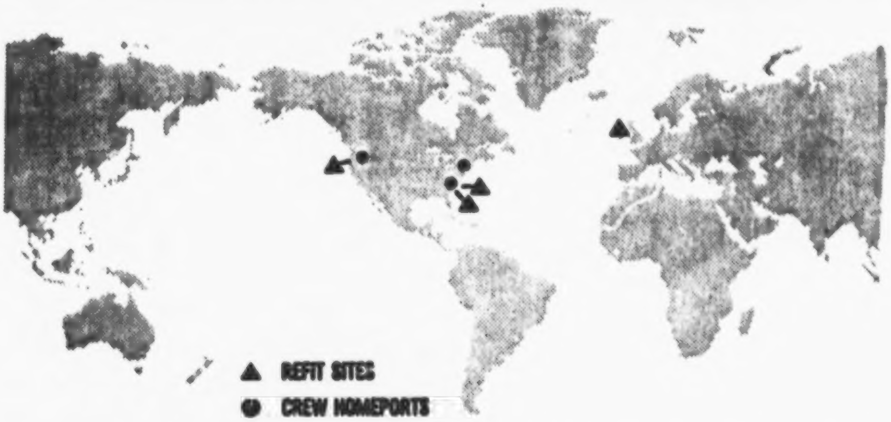
RESEARCH AND DEVELOPMENT PROGRAM

Advanced combat system (Subacs).
Long range sonar (wide aperture array).
Attack submarine development and machinery improvement.
Advanced capability MK 48 torpedo (Adcap).
Antisubmarine warfare standoff weapon (Aswsow).
Submarine launched cruise missile (Tomahawk).
Vertically oriented cruise missile launch tubes.

Turning now to the program that has the highest priority in the Navy, our strategic submarine program. Through 1981 we have conducted more than 2,000 strategic deterrent patrols, and I am pleased to report that our fleet ballistic missile submarine today is just as secure and invulnerable as it was when *George Washington* went to sea in 1960.

Our SSBN's are operating from bases in Holy Loch, Scotland; Kings Bay, Ga., and Charleston, S.C. After the arrival of *Ohio*, at Bangor, Wash., late this summer, this fall, they will commence operations out of the Bangor area.

FBM OPERATIONAL SITES



This slide shows graphically our plan for fleet ballistic missile submarine force levels. At the lower left you can see the phaseout of the Polaris submarines, which was completed in 1981, and today's status where we have 31 Poseidon submarines and 1 *Ohio*-class submarine, for a total of 32.

Our 5-year defense plan, which authorizes two this year and one each year following, gives us a buildup in preparation for the Poseidon SSBN phaseout which occurs rapidly beginning about 1993.

Our plan really is one a year since last year a Trident submarine was not authorized. The plan will improve our capability as measured in terms of the number of warheads on target or destructive effectiveness across the next 2 decades. By the year 2000 we will have about [deleted] Trident fleet ballistic missile submarines with the capability to carry out Poseidon's current targeting assignment as well as have a significant hard target capability at sea.

This slide [deleted] shows the status of our construction of the 9 Trident submarines now authorized. *Ohio* has been delivered, and we expect *Michigan* to be delivered in September and *Florida* following in June of 1983. *Michigan* will go on sea trials in June, and is on schedule.

TRIDENT SUBMARINE CONSTRUCTION STATUS

Hull	Fiscal year authorized	Delivery date
SSBN 726 (Ohio)	1974	October 28, 1981.
SSBN 727 (Michigan)	1975	September 1982.
SSBN 728 (Florida)	1975	June 1983.
SSBN 729 (Georgia)	1976	February 1984.
SSBN 730 (Rhode Island)	1977	October 1984.
SSBN 731 (Alabama)	1978	June 1985.
SSBN 732	1978	February 1986.
SSBN 733	1980	October 1986.
SSBN 734	1981	December 1987.

Ohio's performance has been outstanding. She exceeds the design specifications in every way. She makes [deleted] knots versus [deleted] know design. She is virtually the quietest submarine in the world: [deleted] decibles quieter than the design specifications which were [deleted] decibels less than the current fleet ballistic missile submarine. She is highly maneuverable. I rode the ship during her recent demonstration and shakedown operation in January, and the ship performed superbly and, as you know, successfully launched a Trident-I missile in a flawless manner.

U.S.S. OHIO (SSBN 726)

AT-SEA PERFORMANCE

Exceeds design specifications.
Quieter and faster.
Highly maneuverable.
Excellent weapon system performance.

We also have a Trident-I missile backfit program where we are making a total of 12 Poseidon submarines capable of launching the Trident-I missile. Seven of the ships have been backfitted thus far, and we expect to complete the backfitting of all 12 by March 1983.

TRIDENT I (C-4) MISSILE BACKFIT PROGRAM

12 POSEIDON SSBN'S WILL BE BACKFITTED WITH TRIDENT I MISSILES BY MARCH 1983

Trident I Missile: Greater accuracy than poseidon at greater range; permits greatly increased ocean patrol areas within target range; and, significantly increases Soviet problem.

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Mr. **BENNETT**. Where are they?

Admiral **THUNMAN**. The operational submarines deploy from Kings Bay, Ga. The backfitting is being accomplished in ports on the east coast.

Mr. **BENNETT**. You are telling me, then, there are now Tridents operating out of Georgia?

Admiral **THUNMAN**. Trident-I capable submarines.

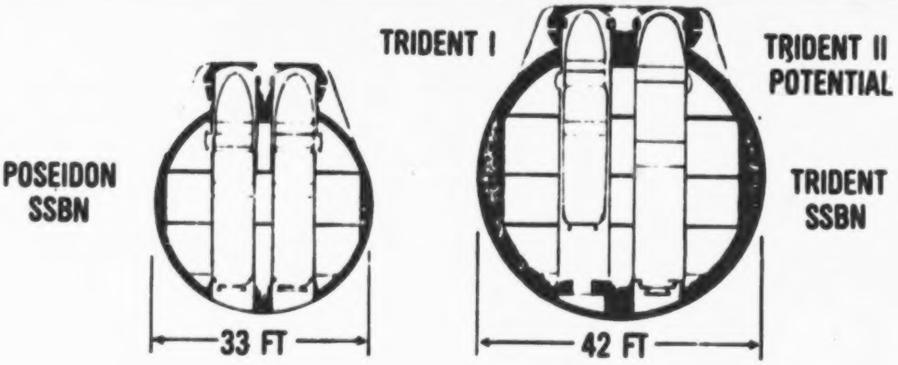
Mr. **BENNETT**. The only Trident missile now ready to fire at the enemy is at Kings Bay?

Admiral **THUNMAN**. Yes, sir, that is where they are operating from.

Mr. **BENNETT**. I didn't know that. Thank you.

Admiral **THUNMAN**. Trident-I is the first step in improving and modernizing our fleet ballistic missile capability It has a range of about [deleted] miles as compared to 2,500 nautical miles for the Poseidon missile. Of course, this increased range increases the submarine's patrol area, which significantly increases the Soviet antisubmarine warfare problem.

TRIDENT GROWTH POTENTIAL (U)



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This slide is designed to demonstrate the growth potential in the Trident submarine. On your left is shown a Poseidon submarine hull, a cross-section view, or looking fore-and-aft and the missile tubes are filled with Trident-I missiles. As you can see, we have used all the missile growth potential in that submarine.

On your right is a Trident hull cross-section. The left-hand missile tube is loaded with a Trident-I missile and you can see there is extra room there, about 10 feet. On your right is the Trident-II missile which will fill the tube and uses the potential of the ship.

Mr. **BENNETT**. Is it a classified piece of information that the Trident missile is in the Poseidon submarines at Kings Bay?

Admiral **THUNMAN**. No, sir, it is not classified.

Mr. **BENNETT**. Thank you.

TRIDENT II (D-5) MISSILE

Larger, more capable submarine launched ballistic missile.—President has directed IOC in 1989.

Capability against entire target spectrum.—Greatly improved accuracy while optimizing range and payload parameters.

Admiral **THUNMAN**. We are going forward with the Trident II, or D-5 missile, as we call it, It is clearly a more capable submarine-launched ballistic missile than we have had before. It has greatly improved accuracy. About [deleted] feet is the goal versus the current value of [deleted] feet, which we have seen during our operational testing of the Trident I missile. It has [deleted] the payload of the Trident I at the same range of about [deleted] miles.

STRATEGIC SUBMARINE BASES

Pacific Coast.—Fully operational and supporting fleet.

Atlantic Coast.—Construction over next seven years. Base construction timed to support introduction of D-5 missile in 1989.

We are also building bases to operate the Trident submarine. In the Pacific our base at Bangor, Wash., is now operational and supporting the ex-Polaris SSBN's. It is ready for *Ohio's* arrival late this summer.

But with a projected force of at least 15 Trident submarines, we need additional facilities. So, we have commenced construction at

Kings Bay, Ga., and we expect that base to be ready for the Trident II equipped Trident submarines in 1989.

Mr. BENNETT. Is that a confidential statement?

Admiral THUNMAN. No, sir, it is not.

I am sure you can see that a Trident base on each coast severely complicates the Soviet antisubmarine warfare problem, and a squadron in each fleet makes it a very difficult problem indeed.

SUBMARINE DISPOSAL

DECOMMISSIONED NUCLEAR SUBMARINES

Four presently in waterborne storage. Some means of permanent disposal will be required.

In January 1982 Navy filed notice of intent to prepare environmental impact statement for disposal of decommissioned, defueled submarines.

Another initiative that I would like to briefly cover is submarine disposal. currently we have four nuclear attack submarines in waterborne storage with a fifth, the *Nautilus,* to become a national memorial. As you have seen during this briefing, we will be deactivating many more by the year 2000, so we need to examine a means of permanent disposal of the ships after we decommission them.

In January 1982 we filed a notice of intent to prepare an environmental impact statement for disposal of decommissioned defueled submarines.

Mr. BENNETT. I think the Navy ought to consider using the fine talents of Admiral Rickover in something like that. He has never indicated to me he wants any further job that pays him any money, but he has a great observation by the public and if he made observations about what to do about this type of material, it might be listened to. So I would suggest if you would carry back to your bosses the idea that maybe he would be somebody to talk to. I am sure he doesn't want any money for anything he does, but I suspect a man who has been as busy as he has, helping our country through all of these years, probably doesn't exactly want to quit being busy for his country. That is a good place for him to be used.

Admiral THUNMAN. That is a fine idea, Mr. Chairman. I certainly will pass that information to my seniors.

I would like to point out we are moving ahead with this initiative years in advance of the need to do so. We feel we need the extra time so that we will carefully examine all alternatives to insure that no actions will be taken that would adversely affect the oceans, the environment, or people.

SUBMARINE FORCE PERSONNEL STATUS

Retention improving.
Accessions of officers and enlisted increasing.
Gains due to Navy initiatives and congressional support.
Problems: Excessive sea duty and low experience level.

Finally, I would like to talk about our personnel situation. The trends are up and there is room for cautious optimism, and I believe it has been due mainly to the congressional support we have received in the area of compensation for our submariners.

There are still problems and we have a long way to go. Our officers and enlisted see extensive assignments to submarine sea duty.

Seventy-nine percent of our officers, commander and below, are assigned to submarines on sea duty. The average young officer today can only expect about 6 years of shore duty during his first 20 years in the Navy. Our goal is 11 years at sea, 9 years ashore, for an ideal rotation.

For enlisted personnel, may have to serve 5 years assigned to a submarine before they are eligible for shore duty, and then that shore duty tour is only for about 2 years.

Although our experience level is improving, it is still low. We can only fill about 65 percent of our lieutenant commander billets on the submarines with lieutenant commanders, and only about 84 percent of our senior enlisted billets, with the right seniority. But again let me say there has been improvement. A year ago we were only filling 70 percent of the senior enlisted billets with the right seniority. There has been 14-percent improvement.

SUMMARY

In summary, sir, our nuclear attack submarines are the best in the world. They are the finest antisubmarine warfare and antisurface warfare platforms in the fleet. They are spread thinly and we need your support of our 5-year authorization plan.

Our fleet ballistic missile submarines are invulnerable and reliable. significant modernization is taking place, and we will have a greatly improved capability across the next 20 years.

In the personnel area we are optimistic but still have a long way to go.

That completes my formal briefing, sir. I am open for your questions.

WRITTEN STATEMENT OF VICE ADM. N. R. THUNMAN

The Chief of Naval Operations in his report of the fiscal year 1983 military posture and budget described the key elements we must build in our Navy to regain naval superiority. As the CNO's Deputy for Submarine Warfare, I will focus today on the programs of our attack and strategic submarine forces which will lead to this objective.

The basic difference between an attack and a strategic submarine is the mission each is assigned. Attack submarines aggressively seek out and destroy enemy submarines and surface ships across a wide spectrum of tactical scenarios, working both independently and in consort with a battle group or other submarines. Strategic submarines carry long range, ballistic missiles capable of destroying targets of strategic importance after launch from the secure reaches of the world's oceans. The stealth, endurance, survivability and extraordinary capabilities of both make them a major deterrent to war and a significant contributor to victory should deterrence fail. I will discuss both types of submarines in detail beginning with the attack submarine.

ATTACK SUBMARINE PROGRAM

The CNO has established a mid-range goal of 100 multi-mission, nuclear-powered attack submarines. This force level is based on the clear-cut premise that from the start of any war with the Soviets, we must have sufficient attack submarines to deploy immediately to forward areas and execute any of the following missions:

Penetrate deeply into hostile seas to conduct sustained independent operations against enemy submarines and surface forces and, with the introduction of the cruise missile, to attack land targets.

Form choke-point barriers to intercept opposing submarines and surface ships and deny them access to the open seas.

Operate in direct support of carrier battle groups against both submarine and surface threats.

Conduct broad ocean search and sanitization to detect and destroy enemy submarines threatening sea lines of communication.

Conduct covert special missions such as mining, reconnaissance, and landing special warfare teams behind enemy lines.

In carrying out these varied tasks, attack submarines must perform equally well in open oceans, in restricted waters, in deep or shallow areas, in the warm waters of the tropics or under the ice in arctic regions. As the war progresses, some submarines will be required to shift roles frequently—all must be capable of repositioning quickly and changing offensive assignments without logistic support.

The current mid-range goal of 100 nuclear attack submarines is limited by affordability, and selected as being minimally acceptable while in balance with other essential naval needs. In support of our goal, seventeen attack submarines of the Los Angeles (SSN 688) class are included in the new construction program of the current five year defense plan. There are now nineteen 688's under construction, with the two authorized in 1982 in contract negotiations. In 1981, seven 688's were delivered and we expect delivery of four more this calendar year.

Today our nuclear attack submarine force consists of: eighteen 688 class; thirty-nine 637 class; thirteen 594 class; eight 598/608 SSNs that formerly served as SSBNs; and ten pre-594 class.

This provides a total force of 88 SSNs. At the end of the current five year defense plan in fiscal year 1987 (projecting 17 deliveries and 10 retirements), we will have 95 nuclear attack submarines.

The cost, and therefore the ultimate affordability of new construction attack submarines is of great concern. This has led us to continue to explore ways to achieve commensurate effectiveness for less capital investment. Unfortunately, I must report that our efforts have not been successful. Given the expanding role of attack submarines and the lifespan of the submarines we now have or can build, there is no apparent cost effective alternative for a multi-mission nuclear attack submarine.

Nevertheless, we continue to explore ways to reduce costs and, to that end, construction of diesel submarines as a less expensive alternative continues to be studied. Diesel submarines cannot match the capabilities of the modern nuclear attack submarine in any major category (E.G., speed, endurance, survivability, fire power, combat systems suite) and they would only be useful in the limited role of choke point barrier operations if they could be forward based and employed in an area which is free of ice and not countered by an intensive ASW aircraft or under-sea surveillance threat. When the possibility of forward basing is examined, it becomes clear that if submarines are permitted to operate from overseas allied bases in time of war, then our allies would also be participants in that war. Therefore, their diesel submarine forces would be available for deployment in the execution of barrier operations within their capabilities. In this connection, the NATO countries, and our other allies who are close to the choke points at issue, have a combined total of over 150 diesel submarines, most of which are well suited for barrier operations.

Our allies continue to build diesel submarines because they are ideally situated geographically to employ them—conversely, our forward strategy which emphasizes flexibility, mobility, simultaneity and offensive combat on a global basis dictates that we build nuclear attack submarines to meet the threat.

RESEARCH AND DEVELOPMENT PROGRAMS

We have for some time cited U.S. technological superiority as the basis for our confidence in our ability to wage submarine warfare successfully against adversaries who have significant numerical superiority. Advancements in technology are grounded solely in our research and development efforts, and in light of the ominous size and improving quality of the Soviet Navy (especially their submarine force), these research and development programs are of critical importance. Your continued strong support in this area is vital.

Before I cite any of our specific research and development programs, I want to give you the objectives against which all of our R. & D. efforts are measured. We have looked closely at the U.S. Intelligence Command's evaluation of Soviet trends and future operations and, after comparing these developments with out current and projected capabilities, certain clear-cut objectives have emerged. We must: Retain the acoustic advantage, acquire weapons capably of destroying the threat, and retain the ability to counter the threat in any theatre.

We must first apply these objectives to improving the capability of the 688 class submarine and, in parallel, we must pursue those technologies which enhance our capability but which cannot be included in the 688 class submarine and which may require the design of a new submarines at some time in the future.

Because of the interdependence between the various subsystems that form the combat and electronic suite of a submarine, our research and development programs must necessarily be structured with a system approach. Communications and navigation equipment, combat sensors, fire control, and weapons systems must be mutually compatible. I point out this interrelation of submarine systems to emphasize the point that programmatic changes or delays in one program can have a significant impact on our ability to successfully execute another.

Ongoing research and development projects that will significantly upgrade our offensive capabilities involve improvements and new designs for long range sonars, the most significant of which is a wide aperture array; an advanced combat system of increased capability and greatly reduced size (Subacs); an ASW standoff weapon that can be employed by either submarines or surface ships; an improved version of the current heavyweight torpedo; and a system of vertically oriented cruise missile launch tubes to be added to our new construction 688 class submarines. These tubes, which can be installed without penalty in speed reduction, quiet operation, or ASW capability, will be capable of launching either the ASW standoff weapon or any of the family of land-attack and ship-attack Tomahawk cruise missiles. We also plan to backfit this installation into existing 688 class submarines during scheduled overhauls, again without impact on speed or attack capability.

Among our most important impending developments will be the introduction of the Tomahawk cruise missile to the fleet this year. The first of these missiles will be carried on board submarines and will be launched using the horizontal torpedo tubes. In his October strategic policy statement, President Reagan announced that the goal for the nuclear armed Tomahawk cruise missile was to have them at sea in attack submarines in 1984. We fully expect to meet his objective.

In addition to the initiatives cited thus far, we are also investigating ways to improve the Arctic warfare capabilities of both the 688 submarine and the weapon we would employ in this environment. Our program to improve the reliability of our basic weapon, the MK 48 torpedo, is nearing completion. A new design advanced capability (Adcap) MK 48 torpedo which will be able to seek out and destroy existing or projected threat enemy submarine or surface targets across a broader spectrum of ocean environments and tactical situations, is in advanced development. Finally, other programs to improve the performance and quieting of propulsion machinery, generators, and auxiliary equipment are aided at meeting one of our primary objectives—radiated noise reduction.

In summary, the modern nuclear attack submarine remains the most capable anti-submarine warfare and anti-surface warfare weapon system in the fleet. At the outbreak of hostilities it will move quickly into forward areas to exploit Soviet weaknesses and pave the way for other forces. Its deterrence value is as great as its value in wartime should deterrence fail—it is a vital member of the 600 ship navy.

I would like to turn now to a discussion of the highest priority Navy program today: our strategic submarine force.

STRATEGIC SUBMARINE PROGRAM

The invulnerabilty of our strategic submarine force both now and for the foreseeable future continues to make this leg of the Triad both survivable and endurable. This fact will become more and more important in the days ahead as we strive to reach accords on arms reduction and as we develop plans to define the future structure of our strategic deterrent forces. SSBN's completed 2043 strategic deterrent patrols as of the end of 1981, and the submarine launched ballistic missile force remains as secure today as when USS *George Washington* deployed on the first Polaris patrol in November 1960. Today, submarines are conducting deterrent patrols deployed from bases in Holy Loch, Scotland; Kings Bay, Georgia; and Charleston, South Carolina.

The capability of the strategic submarine force, whether measured in the number of war heads or target destructive capability, has improved this past year and will continue to do so throughout the next two decades. This achievement is attributable to significant modernization advances which commenced in the mid 1970's. We have modernized missiles, ships and bases. Our original forty-one SSBN's were commissioned in an eight-year period from 1959 to 1967 with a twenty-year design life. Since that time, however, an extended service life of thirty years has been determined to be feasible for 31 of these ships, those which make up the *Lafayette* class. Retirement dates for these ships have therefore been extended into the next decade, but their size and design unfortunately preclude economical backfitting of modern noise reduction techniques and systems into them. This, coupled with the lack of further missile growth potential, prevents continued major improvements in their strategic capability. To replace these ships and to maintain the invulnerability of our strategic sumarine force into the twenty-first century, we embarked in 1974 on the Trident shipbuilding program with authorization of the lead ship, USS *Ohio*. Since then, eight more Trident submarines have been authorized, and two more are being requested this coming budget year.

USS *Ohio* the first ship of the new class, was delivered on 28 October 1981, and commissioned on 11 November 1981. The second ship of the class, named for the State of Michigan, is on schedule and will go on builder's trials in June. *Michigan* has an anticipated delivery date of 30 September 1982. The contract for the ninth Trident submarine was signed in January 1982. It contained options for up to two additional *Ohio*-class SSBN's.

As a part of his strategic program, President Reagan announced on 2 October 1981, that *Ohio*-class SSBN's would be requested at a steady procurement rate of one per year with the tenth submarine being requested in fiscal year 1983 in addition to the one strategic submarine (eleventh) already being planned. This is the program that is now before the Congress. The Poseidon submarines will reach the end of their 30 year service life in the 1990's. We must replace these aging ships, and the presently programmed building rate is adequate to do so.

A Trident shipbuilding rate comparable to that of the Poseidon ships is not required for two reasons. First, each *Ohio* class ship is far more capable than earlier ships with Poseidon, particularly in terms of missiles carried and destructive capability; and secondly, we are building Trident ships appropriately in advance of the Poseidon submarine force's retirement. This yields a further advantage in that we will not be faced with a similar problem of block obsolescence for Trident submarines. Force effectiveness will continually improve because of the improved accuracy and greater yield of the more modern missiles which can be carried in its launchers. In that regard, force effectiveness will take an additional quantum jump when the new Trident II (D-5) missile enters the fleet in 1989.

The USS *Ohio*, as mentioned previously, was delivered to the Navy last October, and is presently at sea conducting shakedown operations. It is an extraordinary submarine indeed; its quietness, speed and modern systems represent a significant advance over the current SSBN force. On the first realistic test of its mission capability, USS *Ohio* successfully and flawlessly launched a Trident-I missile which flew perfectly over 4,000 nautical miles. The ship has exceeded its performance design specifications in such significant areas as speed and quietness.

STRATEGIC MISSILE MODERNIZATION

Our newest operational missile, Trident-I (C-4) has been backfitted into seven SSBN's. As a replacement for the shorter range Poseidon missile, it has proven to be exceptionally reliable and capable. The excellent results first demonstrated in the missile's developmental test program have continued to be exhibited operationally in follow-on tests. So far, the Trident-I missile has significantly bettered its design parameters in range, accuracy and reliability and by March 1983, a total of twelve former Poseidon submarines will have been backfitted. Deployment of Trident-I provides these ships with increased survivability which is inherent in the greatly expanded ocean operating area afforded by the missile's increased range. The backfit program permits these formerly Poseidon equipped submarines to cover potential targets shortly after leaving their base at Kings Bay, Georgia, without the need for the lengthy transit to get within missile range of targets which was previously required. Greater missile range also reduces our future dependence on overseas bases.

The remaining nineteen Poseidon SSBN's continue to carry the very capable Poseidon (C-3) missile which is presently the backbone of our force.

Although the Trident-I backfit program has added flexibility and strength to our strategic submarine program, these backfitted ships are not a substitute for the modern Trident submarines. Only these new ships have potential for future missile growth with whjich to provide the strategic force of the 1990's and beyond.

The missile tubes in the new Trident submarines were intentionally designed larger than required by the Trident-I missile so that they would provide for growth of follow-on missiles which we expect to have to build over the thirty year life of the submarine. In fiscal year 1981 we embarked on an advanced development program for a follow-on missile with improved accuracy and payload characteristics. This new missile, designated Trident-II (D-5) will optimize the effectiveness of the Trident fleet in supporting future national deterrence objectives. It will provide the submarine leg of the triad with an effective capability against the full spectrum of Soviet targets by employing a combination of accuracy and payload improvements.

Numerous studies have shown that a strategic submarine force, equipped with the Trident-II missile, will be the most cost effective force that we can put to sea. The advanced development program will culminate in fiscal year 1983 with a selection decision which will support a calendar year 1989 initial operational capability. This program needs your strong support to ensure that the performance goals and time schedules can be met.

Up until recently, we were also developing designs for improving the accuracy and range of the C-4 missile as part of a separate advanced development program. The President's strategic program announced on 2 October 1981, included the decision to proceed solely with development of a Trident-II (D-5) SLBM, a missile which will utilize the full launch tube envelope of the *Ohio*-class SSBN, and which will have significantly improved accuracy while optimizing the range-payload ratio. Investment in the Poseidon C-4 improved accuracy program, will complete this year. This was not wasted effort, however in that it has given us the technological assurance that the accuracy goals for the D-5 missile can be achieved.

STRATEGIC SUBMARINE BASES

The new submarine base at Bangor, Washington, was essentially completed this past year and was officially turned over to the fleet on 1 July 1981. Although USS *Ohio* will not arrive until this summer, the base has been supporting other fleet and submarine force units throughout the past year. Trident crews are being trained at the Trident training facility, and the strategic weapons facility is fully ready to provide the necessary shore based support for the C-4 missile carried aboard USS *Ohio*. The base is being fully utilized, all quarters are occupied, and all support activities are in operation.

With a projected Trident SSBN force level of at least fifteen submarines, it was recognized some time ago that additional basing facilities would be required. National strategic considerations, including the need to present a two ocean strategic ASW problem to the Soviets, strongly supported the construction of a Trident base on the east coast of the United States.

After the completion of extensive strategic and environmental studies, the Secretary of the Navy announced on 23 October 1980 the selection of Kings Bay, Georgia, as the location of the Atlantic coast strategic submarine base. Base construction begins this year and is planned to be completed in late 1989. A stringent schedule dictated by the lack of existing infrastructure, and the environmental and operational limitations on construction dictate that, the base construction at Kings Bay will take longer than at Bangor. For this reason, construction will commence this year. When completed, this base will have essentially the same components as does the base at Bangor and it will fully support the second squadron of *Ohio*-class SSBN's armed with D-5 missiles.

Through our SSBN force, the sea-based leg of the strategic triad is both viable and effective; and with that brief overview let me turn to another initiative we have begun.

SUBMARINE DISPOSAL

As our submarines reach the end of their useful service life they are inactivated and placed in waterborne storage. Only four ships are in this status today with a fifth, the *Nautilus* being prepared as a national monument. However, eventually some means of permanent disposal will be required. Although the vast majority of the radioactive material in these ships is taken out when the nuclear fuel is removed for recycling, some radioactivity remains from the irradiation of part of the plant structure and its piping systems. The quantity and type of radioactivity remaining is low level radioactive waste. The National Environmental Policy Act requires that all reasonable alternatives be considered in determining how to proceed with an action of this kind. Accordingly, the Navy has recently filed a notice of intent to prepare an environmental impact statement for disposal of decommissioned, defueled submarines.

We are preparing this statement years in advance of any requirement to dispose of a submarine so that consideration of the alternatives can be made in a deliberate, thorough, and comprehensive manner. In looking at all methods of disposal, both sea and land burial will be studied.

I can assure you that in carrying out any disposal actions in the future, the Navy will take no actions that would adversely affect our oceans, the environment or the health and safety of people in our country or abroad.

READINESS AND SUSTAINABILITY

Also important to any discussion of either our attack or strategic submarines are the current fleet standards of sustainability and readiness. Sustainability considerations include the availability of repair parts and replenishment stocks as they relate to our ability to conduct extended combat operations at sea. Readiness in this context refers to the material condition of our ships and the state of personnel manning and training in our submarine crews.

In general, trends in both of these key areas are improving. Our submarines are maintained fully capable of extended operations at sea well beyond the expected length of wartime patrols. Some areas of concern exist, however regarding our ability to rearm and replenish these ships in certain scenarios. Programs to correct these deficiencies have been addressed in the current budget.

The submarine force has always emphasized high standards of readiness. We have recently implemented a performance monitoring system for the SSN 637 and SSN 688 classes that will permit us to extend the intervals between overhauls without sacrificing material readiness. This monitoring program is similar to the program that has been so successful for our strategic submarines. It will permit us to minimize operating time lost during overhaul periods while methodically identifying and correcting equipment deficiencies before failures occur. These monitoring programs have also proven effective in eliminating unnecessary routine performance checks and in reducing repair parts usage.

SUBMARINE FORCE PERSONNEL STATUS

A key element in attaining combat readiness is our ability to man submarines with the necessary quantity and quality of officers and enlisted personnel. Submarine personnel shortages have existed for many years but I am pleased to report that we have made recent gains.

We have observed increases in accessions as well as improvements in both officer and enlisted retention. For the past two years we have accessed the highest numbers of officers into the nuclear submarine program in history. The overall shortage of nuclear submarine officers which was nearly 1,500 five years ago has been reduced to about 1,000 today. The enlisted recruiters have met their goal for nuclear field personnel every month since June of 1980.

Retention of submarine officers has also increased. We had projected only 28 percent retention in fiscal year 1981 but attained 33 percent. It now appears that we will reach 37 percent retention this year. Additionally, eleven officers have elected to return to active duty from civilian life since January 1981 as compared to only one the previous year. We have also seen 23 percent fewer officers submit their resignations this year than the previous year.

Enlisted retention has likewise taken an upswing. One year ago we had only 70 percent of the supervisory billets in submarines manned by the required senior petty officers and chief petty officers. Today we are filling 84 percent of these billets with the required seniority. First term, second term and career reenlistments have all improved over this past year and more senior enlisted personnel are volunteering for submarine sea duty than ever before.

These positive trends in manning and experience levels are due partially to improved management and Navy initiatives. However, in my view, the greatest impetus has been the support by the Congress of personnel programs, particularly the pay and benefit improvements which have been enacted.

Notwithstanding these positive trends, troublesome problems remain. We are keeping the submarines fully manned and mission capable, but only at the sacrifice of reasonable shore rotation and shore manning. Past years of accession shortages and inadequate retention are not easily overcome.

In the case of officers, we man the submarines fully by assigning 79 percent of our commanders and juniors to submarine sea duty. The average submarine officer spends 14 of his first 20 years of service on submarine sea duty. While this is a great improvement over the days when we commonly had 16 to 18 years of submarine sea duty, it is well below our goal of having a ratio of 11 years assigned to submarine sea duty and 9 years of shore and staff tours. The overall shortage of mid-grade officers who serve as senior department heads has also resulted in a lowering of experience levels. Only 65 percent of these billets are being manned now by officers of the seniority and experience level we desire.

In the enlisted area, the attainment of 84 percent senior petty officer manning, while much improved, is still far from optimum. The recent gain in our inventory of these personnel only returns us to the level existing at the end of 1978 in spite of an increase in submarine at sea requirements. As with the officer corps, we sacrifice reasonable shore rotation to keep the submarines combat ready. Most of our key ratings, including nuclear trained personnel, have sea to shore rations of 5 years to 2 years. This is not a desirable situation and is a tough burden for the senior personnel with families. The only solution to these shortages is to continue the gains in retention which we have seen this past year. We cannot afford to lose the momentum and positive trends of improvement which you, the Congress, have helped create. We cannot afford to back away from the benefit improvements such as was done by restricting the lump sum payment of bonuses. We must continue to stay competitive with the civilian sector to attract and retain the numbers of quality young men we need to operate an effective submarine force. I ask your continued support of the programs which have allowed us the gains we have seen. With that support I look forward to being able to solve these remaining problems in the next few years.

SUMMARY

Our attack submarines today are the finest in the world, but these ships would be spread very thinly in meeting their assigned commitments in any near term conflict. I strongly support the need to aggressively pursue our mid-range goal of 100 SSN's. We must continue to improve the combat capabilities of those which we now have through equipment and system upgrades. Because we are inferior in numbers we must ensure that the technological superiority of our submarine force is not jeopardized in the future.

Our ballistic missile submarine forces are at sea today effectively protecting the Nation, and its allies. The strategic capability of this force will continue to improve as we increase the number of more capable Trident-I missiles in the inventory by backfitting Poseidon ships and deploying new Trident submarines. We have an ongoing program to improve the sea launched ballistic missile capability. It will enable us to span the total potential target spectrum and, with your continued support, we can predict with confidence that the sea based leg of the Triad will remain a viable, survivable and endurable deterrent force into the 21st century.

Our submarine manpower shortages are still of concern, but the trends are encouraging. The attention and support of the Congress has been the key factor in our ability to keep our submarine forces combat ready, materially sound, and properly manned. I would like to express for all hands in the silent service, our sincere appreciation for this outstanding support.

I stand ready to answer any of your questions.

Mr. BENNETT. I would like to make one observation about Kings Bay. It is right across the St. Marys River from my district, so I have been there a time or two. I really want to congratulate the Navy on the grace with which they produced that base. Many Navy bases I think look like they have had approval action against anything that was beautiful or attractive, and that base fits into the terrain. It is beautifully designed, and I think that would have something to do with at least married couples being happy in the community. I would like to congratulate your architectural engineers and also the manager or whoever directed the architectural engineers to use a little imagination, because they have what I think they call southern Georgia plantation architecture. At most naval stations it looks like they were built at a time of depression in World War I mostly, and are therefore rather cold. I think it was wonderful; I don't know how much more it cost but I think it was probably worth it to have created an attractive base like that.

Mr. DYSON. It makes us all want to go.

Mr. BENNETT. It is a beautiful base. It has used environmental attractiveness, it is well designed. You left the trees there and the marshes and it is great. I want to congratulate you on it.

I do think that of all the branches of the service, I think the Navy has had the coolest architects in the sense that they really were producing square feet or space with the least grace through the history of all the branches, with the exception of Annapolis. There may be other exceptions, but I don't really know of any.

I have visited a lot of naval bases and they seem to be almost devoid of any enthusiasm about the terrain or the beauty of the spot, or the buildings. I think that is kind of wasteful, really, because I think, particularly married couples are more likely to be happy if they have something that is compatible with ordinary living. That is the end of my speech. I meant this as a compliment. After all, you inherited all the old buildings and I don't know how you happen to have such sterile buildings. Of course, I was at Fort Benning for a while and their buildings are not sterile. A lot of places have some charm to them in the Army. I just feel it is something that ought to be thought about.

Admiral THUNMAN. I will certainly relay those congratulations. As you know, both at Bangor, Wash., and at Kings Bay, a lot of effort was expended by our civil engineering corps as well as other organizations including the Trident program manager to do it right.

Mr. BENNETT. I think it would have something to do with retention.

Admiral THUNMAN. Yes, sir.

I recently visited Kings Bay and was very impressed with their construction plan. I will make certain that the right people know of your pleasure with it.

Mr. BENNETT. Push them to do it the same way if they build anything new. Not necessarily the same architecture, but to show something more than just boxes.

I don't think I have any questions, but I want to congratulate you on the fineness of your presentation. I think we are going to be working together to get the submarines we need.

I do have, of course, some concern about the Russians having produced such good submarines. I realize that we still have better submarines overall, but their submarines are faster and they can go deeper and their fleet is larger than our submarine fleet, so that gives me some concern. Only because of those superlatives—I am not sure how important they are—but my only question to you is, to what extent do you think those superlatives are something that we should be moderately concerned about or very concerned about or disturbed?

Admiral THUNMAN. I think we are certainly disturbed any time that our adversaries have better capabilities than we do. What we have tried to do with our entire attack submarine program is to combat those capabilities.

Mr. BENNETT. How do you evaluate those superlatives that they have got? Maybe it is not good to have a big submarine. It is not good to have a big waistline. It may be you shouldn't have a big submarine.

Admiral THUNMAN. I don't think you need to have a submarine any bigger than necessary to do the job. The bigger you make a submarine however the easier it is to do a lot of things, for example, in the area of sound-quieting. You have a lot more firepower, and firepower is very important in a submarine, and it is something that I am stressing at every turn. I am pleased to see, for example, that we are developing a vertical launch system which will increase our firepower by 12 rounds.

You get more speed, of course, with a bigger propulsion plant. I am not willing to say the Soviet submarines are better than ours. Yes, they have some that go deeper and faster. We think we can counter those with our entire weapons system, thought, and that is what we are trying to do.

Our system rely on each other. If we don't go as fast, then we will rely on our torpedos to do the job. For example, the Advanced Capability Mark 48 Torpedo is very important to counter the high speed Soviet submarines and to counter other capabilities they have in their submarines such as [deleted.] I don't believe their submarines are as reliable, maintainable or safe as ours when they are operating at those high speeds, and I base that on looking at some of the casualties they have had in the past.

[Deleted.]

Mr. BENNETT. Is there reason to spend hundreds of millions of dollars or billions of dollars to have a submarine that will go, for instance, faster or deeper, or are those things you feel reasonably content with in your present submarines? Am I looking at something we are going to have to do something about since they go faster and deeper?

Admiral THUNMAN. I don't see any major change required. I would like to see an evolutionary change in the right direction. As long as our total system will defeat the Soviet submarines, I feel we are OK. If he is making 40 knots and we are making [deleted] knots, he is making lots of noise, and we will be able to track him at long range and shoot him with a long-range torpedo, or a standoff weapon. That is what we have to use to counter their submarines, the entire weapons system.

They do some things better than we can do. The titanium hull submarines they are able to build——

Mr. BENNETT. What is the advantage of that?

Admiral THUNMAN. That makes them capable of going deeper.

Mr. BENNETT. Is that the sole reason why they can go deeper?

Admiral THUNMAN. I think it is the major reason, yes, sir.

Mr. BENNETT. Of course, we can build titanium hulls but they would be very expensive.

Admiral THUNMAN. About 10 times as expensive as building the HY-80 hull we are building today.

Mr. SCHAFER. Does titanium also reduce their magnetic signature?

Admiral THUNMAN. Yes, it does, but that is not our prime means of detecting submarines. Our aircraft use it [deleted] but in the submarine force we do not use that [deleted].

Mr. BENNETT. Mr. Spence.

Mr. SPENCE. Thank you, Mr. Chairman.

I wanted to make an observation and ask a question. Mr. Chairman, I was impressed by the new base up in Bangor in the same way. I guess one of the main things is that with naval installations, when built from scratch so to speak, you can do a lot of things that you are talking about, and the older bases are boxy-like things and are cold.

I was impressed by Bangor. One thing that confused me is they have changed the name of BOQ to—what do you call it now?

Admiral THUNMAN. Unaccompanied officer personnel housing.

Mr. SPENCE. Something like that. I still can't get quite used to that.

Mr. BENNETT. Don't you have bachelor girls?

Admiral THUNMAN. Yes.

Mr. SPENCE. They couldn't explain it to me, but I guess it must have something to do with that.

Mr. SPENCE. I even went aboard and observed the training in getting ready for the *Ohio*, and the prospective commanding officer was there and had been training for a long while.

The SSBN's you are converting to SSN attack submarines, how does that work? Are you taking out the tubes and putting cement in those Polaris or Poseidon tubes and then leaving torpedo tubes, or will they have torpedo tubes?

Admiral THUNMAN. They already have torpedo tubes and they have the capability to carry about [deleted] torpedoes.

[Deleted.] Ten ships were involved. Two we put out of commission and we cut the missile compartment completely out of these ships to comply with the SALT I protocol. But the other eight are operating as SSN's supporting fleet operations.

We have one right now, as a matter of fact, [deleted] but nothing major was done to the missile tubes.

Mr. SPENCE. We have been hearing about the problem [deleted] I understand there are two things, the ability [deleted] and the ability [deleted].

I wondered if you might get into that and tell us about the problem we really have in that area.

Admiral THUNMAN. With regard to [deleted] the 39 ships of the *Sturgeon* class, the 637 class submarine, ships have been designed [deleted]. They can operate [deleted].

Of course, they would only do this in an emergency or to transmit an outgoing message.

The 688 class, the *Los Angeles* class, has not had all of those things done to it. For example, [deleted]. As a consequence, [deleted]. It would also do [deleted]. They can [deleted]. They haven't the capability [deleted]. We are now looking at what it would take to modify our SSN-688's to give them the same capability as the 637.

[Deleted.]

That is where we are.

We are also looking at what else might be done in future submarines to make them more [deleted] capable. But our near-term objective is to address the 688 class to make them more capable [deleted]. We think it is very important that we have that capability in our submarine force.

Mr. SPENCE. How about [deleted].

Admiral THUNMAN. Our [deleted] programs are also considering [deleted] and they are designed to distinguish the different types [deleted]. The most important development, though, to prepare us to fight [deleted] is in the area of weapons development. The Mark 48 torpedo is an example.

[Deleted.]

Mr. Dyson. I think what the chairman was trying to imply when he questioned the size of our submarines versus the Soviets is that bigger is not necessarily better. I think you more than adequately explained that.

In the whole shipbuilding program, which Secretary Lehman now says the administration would like to have a 600-ship fleet by 1990, and the role you play in that scheduling, how is your scheduling coming along as far as the submarines? I know in your presentation you indicated one a year.

Admiral Thunman. The one a year was in reference, I was talking to the strategic forces, the Trident submarine. In the attack force we expect to reach 100 in the year 1995, and I believe the Secretary said his goal of a 600-ship Navy includes 15 battle groups and about 100 nuclear attack submarines.

We will reach our current goal of 100 in 1995. This slide shows that we increase to 99 by the year 1984, we drop back down to 95 in 1987, and then slowly build back to 100, because as we are constructing submarines, we are also putting submarines out of commission at the end of their useful lifetime.

Mr. Dyson. The problems at Electric Boat, have they been worked out?

Admiral Thunman. Yes, sir, most of them. I would ask Admiral Peebles, who is here from the Naval Sea Systems Command, to address those specifically.

Admiral Peebles. As you are aware, Mr. Dyson, there has been a backlog of undeliverd submarines developed at Electric Boat due to problems at the facility. Last year Electric Boat delivered six 688-class attack submarines and the first Trident submarine, the *Ohio*. We expect that they will deliver on schedule this year two 688 submarines and the second *Ohio*-class submarine, the *Michigan*.

Mr. Dyson. How about the schedules, do they catch up any?

Admiral Peebles. The contract schedules have been adjusted incident to contract actions taken during the past years. The Trident schedules are as shown on Admiral Thunman's viewgraph earlier for the Trident submarines. They were adjusted last August by contract. These were somewhat earlier than the Navy assessment given to this committee last April.

The 688 submarine schedules were contractually adjusted incident to the procurement of the contract award of the fiscal year 1981 submarine, the SSN-724 awarded to Electric Boat last month.

Mr. Dyson. Thank you. Thank you, Mr. Chairman.

Mr. Bennett. At this point, does the staff have anything they would like to ask or put in the record?

Mr. Kriser. I think the chairman should be aware of a few things before we submit for the record.

I had a telephone call from a reporter the other day, yesterday, and the reporter asked me if I knew anything about a problem in the U.S.S. *Boston*, an SSN-688, with respect to actuator valves of some sort. I told him I did not.

Last night I talked to Admiral Fowler briefly, and he indicated indeed we may have a problem. I wonder if you could address this Admiral Peebles, or Admiral Thunman, as to what the extent of the problem might be.

Admiral **Thunman**. The problem is that there has been some contamination of the hydraulic systems in the *Boston* and we are investigating how we can eliminate that contamination.

Maybe you would want to add something to that.

Admiral **Peebles**. Yes, sir.

There are about 70, 71 actuators in the 688 class. We have taken action to clean those actuators and the piping system and the leaks immediately in the system, in the *Boston*. We are also doing the same thing in the *Dallas*, the SSN-700, and we are examining all other 688-class hydraulic systems for cleanliness now.

We don't have all those results in yet.

Mr. **Kriser**. Whether they were built at Electric Boat or Newport News?

Admiral **Peebles**. No, we are examining the ones built at Electric Boat first.

Mr. **Kriser**. Why?

Admiral **Peebles**. We suspect that the actuators may have been installed prior to cleaning in an as-delivered condition from the subcontractors. We are aware that Newport News cleans those actuators before they install them once they are received from the subcontractor, and we have direct knowledge of this.

The procedures at Electric Boat are under review at this time. The contract and the specifications clearly require that the contractor can only install cleaned components.

Mr. **Kriser**. Do you consider this classified information?

Admiral **Thunman**. Well, the information that I have seen has been in confidential reports from the ship, and of course anything that limits the ship's capability for any period of time is classified since it is an operational ship.

Mr. **Bennett**. Well, on the level that you have given it—I certainly hope we are not having an exposé of it because you are not firm in saying that they have done wrong. In other words, to raise the question of the possibility of doing wrong with all the other possibilities that they are doing wrong at Electric Boat, we don't need another one. I think we ought to find out what really is the fact before we expose it.

At the time you find out the real facts, I think it ought to be made public, but we don't need more suspicions about dereliction at this spot until we know that it is so.

Admiral **Thunman**. Yes, sir. I agree.

Mr. **Kriser**. I have one more question that I think the chairman needs to listen to because I expect that when we deal with the Senate this year we will have a push toward looking at diesel submarine construction, and so I wonder if you could address briefly this point. Those who support the diesel electric submarines say the diesel sub can effectively do the following—and I will read them to you briefly:

> Escort the support of slow-speed transit groups, convoys, support ships and amhibious groups.
>
> Mining in relatively shallow waters.
>
> Surveillance at choke points.
>
> Surveillance and sanitizing of U.S. harbors and port entrances for departing or returning U.S. forces.
>
> Monitoring foreign ports and foreign shadow ships and submarines.
>
> Attack surface combatants, other submarines, merchant ships and support ships.

I wonder, do you concur with that kind of a statement?

Admiral **Thunman**. No, sir, I do not.

The diesel submarine has some capabilities. Let me start off by saying any submarine is extremely effective when you are on the track of a target. It doesn't make any difference how you got there, once you are on the track and are able to attack, then you are a very lethal, deadly weapons system.

But let me address some of the missions you mentioned, like escort and support of low-speed transit ships. We have studied this, and it is obvious to me as a submariner that we would never use a diesel-electric submarine to do that. It is too slow. If it went fast enough it would have to snorkel, and I think the maximum snorkel speed that a diesel-electric submarine could make realistically for a long period of time would be 10 to 12 knots. If the diesel-electric is snorkeling, then it is making a lot of noise, its own sonar isn't anywhere near as capable as it needs to be to detect enemy submarines, so how can it be an escort? And 10 to 12 knots is very slow for any transit group speed of advance.

So our studies have shown, and in my own personal opinion, having served in a diesel-electric submarine, we would never use it for that mission.

Let me discuss mining in relatively shallow waters. We use our nuclear attack submarines for mining in relatively shallow waters too. For some reason, some people think you can't take a nuclear submarine into shallow waters and do these jobs. Our policy is to take attack submarines into [deleted] feet of water.

Mr. **Bennett**. I think the point they are making, though, is that the submarines are so much cheaper, why use these more expensive vehicles to do it. I think that is the point that we will be met with on the Senate side. So you are saying, really on that point, yes, you can use them for that purpose but you can also use these more expensive ones we have. I assume you have to put a similar caveat on that, that is not enough excuse to have the diesels.

Admiral **Thunman**. No, sir, but let me go on and say—and you are right, I haven't given the primary reason.

The primary reason, if you are going to lay mines you are going to go deep into enemy waters, and if you take on any of these special missions such as mining, you are going to have a real problem. You are working in waters that the enemy controls, where they control the air cover, and a diesel submarine is going to have a hard time getting there and surviving. As Commander Submarine Force Pacific, I maintained some nuclear attack submarines ready for mining, and I certainly would not have considered a diesel submarine to do that job deep in enemy waters.

Now, you are right, sir, if we were mining in areas where, again, we were not faced with intensive ASW air then the diesel submarine would be useful. I think, though, we would rely on our allies to do that for us.

Mr. **Bennett**. You just don't think there would be that many cases where it would be safe, where it would justify building a diesel for that purpose?

Admiral **Thunman**. No, sir.

Mr. **Bennett**. I was trying to get why it is you don't want the diesel because it is obvious they could lay some mines in a safe place.

Admiral **Thunman**. Let me go back to the Indian Ocean. Suppose we wanted to lay mines in the Straits of Hormuz, for example, and we got a diesel-electric submarine underway from Pearl Harbor. It would have taken us 40 days to get there, and that is in good weather, and assuming we are not concerned with being detected because the submarine would have to snorkel all the way there with its snorkel mast raised. After she got there, to lay the mines we would, of course, want air cover. We would want her to be survivable in order to do the job.

The point I am trying to make is that you not only have to consider the mission, but where the mission is, and what we are countered with in conducting this mission.

You are right, sir, on certain occasions we could use the diesel-electric submarine for mining.

Mr. **Bennett**. It is sort of like an infantry soldier could use a pistol but he is not going to have very many opportunities to use it, so there may not be enough chances for you to invest that kind of money in that downgraded system. I guess that is what you are saying.

Admiral **Thunman**. Yes, sir.

Mr. **Bennett**. It obviously could lay mines?

Admiral **Thunman**. Yes, sir, no question.

Mr. **Bennett**. To go on surveillance at choke points, could it do that job?

Admiral **Thunman**. Yes, sir. Here again, it has to get there. Here again, it can be countered by ASW air or a surveillance system.

Mr. **Bennett**. I think they have in mind these things already being there. I think when the arguments are made by the Senate they have in mind not getting there with a 40-day delay but being there. In other words, they are so cheap you would have a lot of them hanging around. I think that is what they have in mind. They don't have in mind bringing it in from Hawaii. They have in mind it being there.

Admiral **Thunman**. Of course when you say cheap, the life cycle cost is half that of a nuclear attack submarine and construction, we feel, is about a third of the nuclear attack submarine, so they are not all that cheap.

Mr. **Bennett**. Less cost because of personnel board, is that what you are considering?

Admiral **Thunman**. Considering everything including fuel used. They have less personnel than the nuclear submarine but considering the entire cost of running a diesel submarine across its life cycle as compared to a nuclear attack submarine, it is half the cost.

Let me point out where you say we assume they would already be there, that we do have them right now in the form of our allies. Some 150 allied submarines which are very near choke points where they control the air, and they can do a good job.

Mr. **Bennett**. I guess you are saying, well, the attack submarines that you are building are attack submarines to do something that only an attack nuclear submarine is likely to be able to do very well and the other things suggested for diesel submarines, we are not even building them because we are relying on our allies to perform that function. Is that what you are saying?

Admiral THUNMAN. Yes, sir, and I am also saying, though, that we need flexibility in our attack submarines to do both.

[Deleted.]

Mr. BENNETT. To do both what?

Admiral THUNMAN. Well, to conduct a barrier mission and the next day move out to direct support of a carrier battle group. I am saying on occasion you would want an attack submarine to do the barrier mission which we are assuming the diesel submarine could do too, under certain cases, but you also need the flexibility to move from one scenario to another and if you have got a diesel submarine there on the barrier and if you decided you wanted to move forward and do something in the forward area, you couldn't. He can only do the barrier. You are locked into a limited tactical situation.

Let me address surveillance and sanitizing U.S. harbor and port entrances for departing and returning U.S. Forces. Certainly they could do that. I, of course, am concerned that we need to start spending our scarce resources for that. That is really retrenchment that we feel we need to build submarines to protect the homeland.

I would much rather build submarines to go forward, take the fight to the enemy. That is what we plan to do, and hurt him where——

Mr. BENNETT. The function you are referring to there is not a function we are now performing, really, is it?

Admiral THUNMAN. Well, we are, sir, with other forces, with our antisubmarine warfare air forces, our surface ships. There are a lot of other forces that can do that.

Mr. BENNETT. But you are not doing it by submarines?

Admiral THUNMAN. No, sir, not routinely. Certainly we have our own submarines out in the operating areas exercising and then, of course, if they detected a foreign submarine they would prosecute. But we have other forces to do that, and I don't think we are at risk there now. I hope we don't become at risk there in the future.

Mr. BENNETT. Then it looks like that would be adding a function of the Government in the field of defense rather than substituting a less capable submarine for a more capable submarine.

Admiral THUNMAN. Yes, sir. Let me say, though, in time of war if we move a carrier battle group out of San Diego, with that battle group we would have our nuclear attack submarines to sanitize, to provide antisubmarine warfare support for that battle group, from the sea buoy to wherever they went. Then in that case, of course, we would be close to land, but the same submarines would be doing it off San Diego as in the mid-Pacific and in the far ranges of the Pacific, wherever the carrier battle group went.

Mr. BENNETT. You would be leaving something else back home other than submarines for that continuous operation once that fleet got underway?

Admiral THUNMAN. That is correct, yes, sir.

Let me discuss monitoring of foreign ports and foreign shadow ships and submarines. If you put the diesel-electric submarine off a foreign port, he has a hard time. He has got to snorkel. Again, he is countered by their forces especially their air forces. Can he do the job? Yes, but he can't do it very well and it is risky and in time of war I think he is extremely vulnerable.

For shadowing foreign shadow ships such as AGI's, I think he would have a hard time keeping up, especially if the AGI got underway and started steaming at 10 or 15 knots for a day or so. It would be very difficult for the diesel submarine to keep up under those conditions.

Shadowing other submarines. They can do a good job for a few hours, but again they have got to start snorkeling at least after 1 day of 6 to 10 knots of operation, and that is where they lose the other submarine.

I use my own experience. I can recall when we had the *Darter* in the [deleted] a [deleted] went by. The *Darter* [deleted] but in a few hours [deleted] her battery required charging.

Yes, sir, they can do the job, but the nuclear submarine, of course, can stay with them for weeks and if you want to shadow or conduct surveillance of another unit, you want to stay with them all the time, not just a few hours.

That addresses all of those specific points.

Mr. SCHAFER. Let me jsut follow up on the diesel submarine. One of the advertised advantages of the diesel submarine is that they are extremely quiet, particularly while they are operating on battery power and that they are even quieter than the nuclear-powered submarines. Is there any data available to support or refute that, and is there anything inherent in the concept of the diesel-electric submarine that would cause it to be quieter than the nuclear-powered submarine?

Admiral THUNMAN. In the area of data, I have here a viewgraph [deleted] which compares a German diesel-electric submarine, the HDW-2000, which we have been asked to examine by the Congress for construction. Let me show you what we have here.

This shows the noise level of the different submarines and the frequency of those noise levels. Essentially, we are looking across the entire frequency range of broad/band noise that we would receive from the submarine, and we are comparing the German T-2000 design which was submitted to us—we are using their data—it is a submarine on paper right now, it hasn't been built and this is data provided me in a briefing. The SSN-688-class submarine is shown here in the green, the German submarine in the red. This shows the noise level of our 688-class submarines proceeding at 5 knots. The 2000 submarine, No. 2 here, proceeding at 5 knots on battery and not snorkeling. [Deleted.]

If we move up to 10 knots at No. 3 here, you can see the noise condition of the 688, and this is the noise condition of the HDW-2000 [indicating]. [Deleted.]

If you take the HDW-2000 to 15 knots, [deleted].

Mr. BENNETT. How much cheaper is it?

Admiral THUNMAN. They are advertising the submarine for about $200 million, which is initial procurement. Today the 688 class, in 1983 dollars, is $598 million.

Mr. SCHAFER. Now, isn't the principal long-range detection [deleted].

Admiral THUNMAN. Yes sir. If they had a towed array sonar capability—of course you must have a bigger submarine to carry a long towed array. With a long towed array you have the capability to detect submarines, especially [deleted].

Yes, a diesel submarine could have that capability. At the same time, they have to snorkel and we will detect them at very long ranges on the snorkel.

Mr. **Schafer**. But you are suggesting that this particular submarine, the T-2000, would not have the capability to have that towed array, that it is just not a big enough submarine?

Admiral **Thunman**. I don't believe it would be big enough to have a [deleted]. I would have to look at that but it is not a very big submarine.

Mr. **Bennett**. If this is so much cheaper than our submarine, why would you not want to buy some even if they are [deleted].

Admiral **Thunman**. Mr. Chairman, we need every dollar we have got for our submarine systems, either the building of our submarines or in those research and development programs and engineering development programs ongong to improve our capabilities. The advanced capability MK-48 torpedo, for example, is doing many things for us such as countering improvements in Soviet submarines and giving us a capability [deleted].

If we took money from any of those areas and put them into a diesel-electric submarine, I just don't think we would be well served. It is not as if we have the extra funds, as you well know.

Mr. **Schafer**. Let me go back to Electric Boat.

It has been suggested that really there is nothing to be gained by funding the second Trident in fiscal year 1983, that it will not result in earlier delivery than if it were funded in fiscal year 1984.

Admiral **Thunman**. We will get earlier delivery by some 4 or 5 months, but you know we have made a commitment of one Trident submarine a year to improve our strategic submarine capability, and that is what the two in 1983 does. It makes up for the one we missed in 1982, and we build on at the rate of one a year. If we don't authorize two in 1983, then we will give the contractor the opportunity to have a production break. It is going to cost more money if you provide that opportunity. Not only from the major contractor but from the smaller contractors involved. We will lose the opportunity for the option to buy two, which went along with the previous contract. We have got to execute that option by February of 1983. If we only authorize one in 1983, we will lose that option, so the next contract negotiation would be used for that submarine. It is bound to me more costly.

All of those things are important, but I believe the commitment of one a year is important to the administration to demonstrate that we intend to improve our submarine strategic capability.

Mr. **Schafer**. This budget this year includes only two 688 submarines even though the Congress authorized long lead planning for three. Is that in any way related to the workload situation at Electric Boat?

Admiral **Thunman**. No, sir, it is not.

Mr. **Schafer**. So it is your assessment that if there were three submarines authorized, there would be no workload problems, and industrially we could build three in fiscal year 1983?

Admiral **Thunman**. Yes, sir, that is my assessment, and I believe the assessment of the Naval Sea Systems Command. An extensive survey was conducted of the Electric Boat facility and, yes, we do have the capability to build three.

Mr. BENNETT. The staff will submit a few additional questions for the record.

[The following questions were submitted to the witness to be answered for the record:]

SUBROC

Mr. BENNETT. To what extent will attack submarine (SSN) capability degrade as Subroc is removed before the ASW Standoff weapon becomes available.

Admiral THUNMAN. Until the Soviets achieve the ability to detect, localize, and attack our submarines from outside our torpedo range, the absence of ASW standoff weapons in those submarines does not pose a significant threat to them. The Soviets do not currently have such a capability and are not expected to achieve it until the late 1980's. However, those [deleted] from which Subroc capability will be removed before the ASW standoff weapon becomes available will be limited in their ability to attack long range targets and intermittent snorkeling submarines. These ships will have to close their targets until they are within torpedo range.

Subroc phaseout will take place over an extend period [deleted] during which our attack submarine force will maintain a reduced capability to employ Subroc. We currently have [deleted] SSN's capable of employing Subroc, and each will retain that capability until it receives the Tomahawk curise missile capability. [Deleted] will not be modified for Tomahawk and thus will retain the Subroc capability until they are retired from service between [deleted]. The new ASW Standoff Weapon, which can carry either a conventional or nuclear payload, is scheduled to achieve an Initial Operational Capability in [deleted].

Mr. BENNETT. What is the Navy doing to narrow or eliminate the gap between the phaseout of SuBROC and a new standoff weapon capability for the SSN submarine force?

Admiral THUNMAN. Gradual phaseout of Subroc will take place over an extended period [deleted]. The current Subroc inventory is limited and decreasing steadily as required to satisfy Department of Energy warhead quality testing requirements [deleted]. Nevertheless, there will at all times be enough warheads to support Subroc missile loadouts on all the SSN's retaining the capability to employ them. This ensures that our submarine tactical nuclear ASW mission will be continually supported through the introduction of the new standoff weapon.

Although the present Subroc phaseout plan is a cost-effective approach to the transition to newer weapons (digital MK 48 ADCAP, Tomahawk, and ASW Standoff Weapon), the Navy has been investigating a number of other options to further extend the life of Subroc. The results of this analysis will be forwarded to the Chairmen of the Armed Services and Appropriations Committees in response to the requests of the House and Senate Appropriation Committees reports on the Fiscal Year 1982 Defense Appropriations Bill, by 1 May 1982.

Mr. BENNETT. Will the SSN force be adequately equipped with a new standoff capability?

Admiral THUNMAN. The ASW Standoff Weapon will reach IOC in [deleted]. At that time about [deleted] SSN's of the 594 and 637 classes will still be equipped with Subroc. A significant Fleet operational capability of the new ASW Standoff Weapon should exist by [deleted].

Mr. BENNETT. Mr. Kriser.

Mr. KRISER. When you mention the capability of the nuclear attack submarines, you also said that it can carry out all these tasks, and you end up by saying, "* * * can change offensive assignments without logistics support."

It brings to mind, what do you do if you have a boat in trouble that is somewhere out there and it is a nuclear submarine, what do you do in the way of getting help to her? I assume that her going to a port to get facilities or to get some work done, would be very difficult because you need specialized training and equipment. What are the plans for such a thing?

Admiral **Thunman**. Are you talking peacetime, sir, what we are doing today?

Mr. **Kriser**. Both peace and war.

Admiral **Thunman**. Of course, we design very reliable submarines, as you know, and we train our people to take care of them. We do a lot of repair as sea. When casualties occur at sea, we fix them at sea. This is one of the reasons you need the numbers we have on board our submarines—some people say you can run a submarine with only 30 people in the crew. That is true if everything is working properly. If we have a problem that requires to go into port to repair that problem, we are able to move the men and materiel as necessary, either by air, or we have tenders stationed around the world. We would station them around in time of crisis to be ready to take care of the ships.

For example, we deployed submarine tenders to [deleted]. We used other tenders. It didn't necessarily have to be a submarine tender, and we would bring out special teams to help us repair the ship.

Our submarines are kept in extremely good condition. I would like to leave that point with you. We really work hard to maintain the condition of the ships. We train the crews to take care of them, and our record, I think, is quite good because we have conducted a lot of submarine at-sea operations. I believe you can project the same for the wartime situation, too.

Mr. **Bennett**. The subcommittee will adjourn. Thank you very much.

[Whereupon, at 11:50 a.m., the subcommittee adjourned.]

PUBLIC WITNESSES

The subcommittee met, pursuant to other business, at 2:15 p.m., in room 2216, Rayburn House Office Building, Hon. Charles E. Bennett (chairman of the subcommittee) presiding.

Mr. **Bennett**. The subcommittee will come to order.

This afternoon we will continue our hearings on the fiscal year 1983 defense authorization request. We will be hearing from representatives of a number of public groups today. We set this hearing up for the convenience of the witnesses. Frequently our hearings with departmental witnesses involve classified information and are held in closed session. By holding a separate hearing this afternoon, we will not have to ask any of you to leave because we will be in open session.

Mr. Spence has a statement for the record, which will be put in the record at this point.

Written Statement of Hon. Floyd Spence, a Representative From South Carolina

Thank you, Mr. Chairman. I too want to welcome our witnesses this afternoon. I know we will benefit from the special insight each of you has in your respective areas of expertise.

I'm interested in Mr. Hood's assessment of the health of the U.S. shipbuilding industry.

I hope Admiral Holloway will elaborate on what practical action this Congress can support to rebuild our Merchant Marine.

I noticed that the statements to be made by Captain Coleman of the Naval Reserve Association and Master Chief Thomas of the Naval Enlisted Reserve Association contain proposals to integrate our naval reservists more effectively with the regular surface fleet operating forces. We need a well-trained and ready Naval Reserve, and I'm pleased to see that progress is being made in that direction.

I look forward to your candid comments regarding your constituency and the roll they have to play in national defense.

Mr. **Bennett.** Our first witness this afternoon is Mr. Edwin Hood, president, Shipbuilders Council of America. Mr. Hood, you may proceed.

STATEMENT OF EDWIN M. HOOD, PRESIDENT, SHIPBUILDERS COUNCIL OF AMERICA, ACCOMPANIED BY STUART S. ADAMSON, VICE PRESIDENT

Mr. **Hood.** I am Edwin M. Hood, president of the Shipbuilders Council of America, an industry trade association composed of major shipbuilders, ship repairers, and ship component manufacturers in all sections of the country. I have attached to the statement, Mr. Chairman, a listing of our current membership. I am accompanied by Stuart S. Adamson, vice president of the council responsible for our naval activities.

We very much appreciate this opportunity to appear before your distinguished committee to offer the views of the shipbuilding industry relative to the fiscal year 1983 naval ship construction program and its attendant 5-year shipbuilding plan calling for 133 new buildings and 16 conversions.

The importance of naval shipbuilding to our industry can best be illustrated by the substantial role it plays in our collective efforts. At the present time, new construction of naval ships accounts for almost 70 percent of all major shipbuilding in this country. Regionally, 85 percent of the shipyard workers engaged in ship construction on the Atlantic coast are assigned to Navy ships and 80 percent on the Pacific coast. On the gulf coast and in the Great Lakes that number is above 40 percent. In addition, more than half of the ship repair workload performed in our coastal shipyards is for the U.S. Navy account.

Given this extraordinary dependence, it is quite apparent that Navy planning and commitments are a key issue in determining the survival of our shipbuilding industry. It is not and, logically, never should be, the prerogative of private industry to propose or dictate long-range naval force requirements and composition. However, we must have the opportunity to know what will be required to allow an effective marshaling of our resources.

Your subcommittee, above all, has recognized and supported that need. As a result of your hearings on the "Status of Shipyards" in 1974, you noted the "inability of shipyards to plan for the future because of a lack of a clearcut, long-range national program and a pattern of peaks and valleys in shipyard activity." Here I am quoting from the report.

On that premise, your subcommittee initiated the recommendation that Congress adopt a firm 5-year naval shipbuilding program.

And so it was in the 94th Congress that a requirement was passed for the annual submission of a 5-year naval ship construction and conversion program concurrent with the President's yearly budget request. Subsequent year submissions were to report any changes deemed necessary, based upon alterations in the defense strategy of the United States and advances in defense technology.

It is eminently clear that it has long been the intent of the Congress to recognize the adoption of a firm 5-year shipbuilding program. Regrettably, over the past years, previous administrations have not honored that intent, choosing to subjugate the obvious operational requirements of the Navy to interests other than the maintenance of an acceptable balance of maritime superiority for the security of our Nation.

Not only have these aberrations frustrated the shipbuilders, but the Congress in its attempts to justify spending for naval forces has also been thwarted. The Congress had been asked to respond to ill-defined programs and a dichotomy of uncertainties. With this confused state of affairs, and despite the need for a strong Navy, congressional funding in the past 8 years has been provided for only four-fifths of the number of naval ships requested.

These are circumstances that must be changed. We perceive that the current administration has evidenced more perseverance than its immediate predecessor. It has appointed knowledgeable people to important decisionmaking tasks affecting naval ship construction and conversion. The Department of the Navy has set about to resolve the impediments to a sound, workable business relationship with our shipbuilding industry. It has shown a continuing commitment to the establishment of a 600-ship fleet and the expanded shipbuilding program necessary to achieve that goal.

We have the ingredients to establish a firm strategy for future naval ship construction. We need your help to keep it so. The decisions you make regarding the authorization of naval ships for the coming fiscal year will inevitably impact on the plans for ships to be authorized in the following years. The postponement or deferral of ships today could defer or postpone the award of future construction contracts that we so desperately need.

We ask that your deliberations recognize that some measure of stability must be equated to the 5-year naval shipbuilding program so that shipbuilders will be able to compete and plan with realism.

Because of the long leadtime associated with the construction of sophisticated warships, the full impact on shipbuilders of the expanded Navy program is at least 3 years away. Getting from here to there will not be without hindrance. At least half of the major U.S. shipyards with the facilities and skills to produce the larger combatant and auxiliary ships projected in the Navy's 5-year plan are now running out of work. New contracts may come too late to avoid further production and employment disruptions.

In January 1979, only 3 years ago, we reached a peacetime peak of 75,000 workers engaged in naval ship construction. Over the past 5 years, annual congressional appropriations, averaging 16 new ships per year, have not sustained that same level of employment. At the start of this year, employment requirements for naval new construction dropped below 60,000, and by the end of this year that figure could be less than 50,000.

Near-term prospects for shipyard work are imperative. To that end, we urge your full support of the more immediate conversion programs such as the TAK-X, the SL-7's, and the hospital ship, as well as the reactivation of the *Iowa* and the proposed budget for naval ship overhauls. Each of these programs may well mean the survival of some of our shipyards.

There is one other point that we wish to make clear. That is, under no conceivable circumstances will the planned additions to the naval fleet command the full potential of the shipbuilding industrial base—facilities, support activities, and work force—as now constituted.

The present active shipbuilding industrial base comprises 26 shipyards which have the facilities and work force to construct oceangoing ships and are currently seeking contracts to build them. Of the 26 yards, 8 are now engaged primarily in naval ship construction although half of them are maintaining their employment levels with additional commercial work. The workload at two other yards is about equally divided between Navy and commercial work.

Based on the present 5-year plan, it is estimated that by 1985, a maximum of another 4 yards will join the naval shipbuilding fraternity, making a total of 14. In other words, the remaining 12 shipyards as well as a significant share of the yards now involved with Navy work will continue to need merchant ship construction opportunities if the industrial base is to be maintained for future need.

Unfortunately, commercial ship construction in the United States is waning seriously. By year's end, the backlog of commercial ships under contract in U.S. yards will total eight. As a result, there has been a serious decline in skilled shipyard workers devoted to merchant ship construction from a peak of 35,000 at the start of 1976 to less than 10,000 by the end of this year.

When coupled with the concurrent decline in naval shipbuilding, this means that some 50,000 skilled shipyard workers, and another 77,000 workers in supporting industries, have shifted their efforts, in the past 7 years, from the task of building ships.

That diminution of our Nation's shipbuilding industrial base should be a matter of disturbing relevancy to policymakers charged with ensurance of national security. And yet today administration officials are openly encouraging foreign construction, conversion, and repair. There has been no comprehensive governmental move to counter the decline in commercial shipbuilding activity and employment. There has been virtually no official interest in measures to assure operational and work force stability in U.S. shipyards to the end that national security requirements will be served and that the essential shipbuilding mobilization base will be adequately maintained.

We bring this to your attention because there is a very deliberate equation incorporating merchant vessels and naval ships. Not only must the strength of our Nation's seapower be measured in numbers of warships and sealift capacity, that is, U.S.-flag merchant ships, but also in terms of our ability to build both kinds of ships. In terms of maritime strength—in terms of the term "maritime superiority," which is used in these times—the two are inseparable and complementary.

Testimony presented 2 years ago before the House Subcommittee on Merchant Marine by the president of the National Steel & Shipbuilding Co. in San Diego, Calif., illustrates a facet of this principle. In the context of referring to the acquisition of two merchant tanker construction contracts while naval shipbuilding was ongoing in his shipyard, he stated:

> The effect on the cost to the U.S. Government on existing Navy contracts due to our signing these additional commercial contracts is that the Navy contracts will have reduced costs of approximately $22,800,000. This is primarily due to reduced cost of overhead, as fixed costs are shared on a broader base. This is one example of how commercial shipbuilding actually reduces the cost of Navy ships.

In closing, we would urge you to renew your 1974 assessment that a "viable, healthy system of shipyards is necessary to national security" and that a "clearcut long-range national program" is needed to secure that tenet.

Thank you, Mr. Chairman. We stand ready to respond to any questions you may have.

Mr. BENNETT. Thank you. As usual, you have made a very strong and very appropriate statement. I myself am in close agreement with all of the things you have said.

I don't know to what extent this committee would have jurisdiction to add language to the bill or what device we could use to get jurisdiction. I am sure it would be agreed to by the Merchant Marine and Fisheries Committee that something should be done to strengthen building of merchant-type ships, and that it be put in on the basis of keeping viable shipyards available.

If you come up with any idea for specific language and would like to send it to us, we will certainly consider it because as I sit here today, and I think most of the members of the committee would agree with me, we are very concerned about the falling off of the base of production of ships and we all know that a lot of ships are being built for American commerce abroad.

It is not for the purpose of hurting anybody abroad but for the purpose of having control over our own destiny, particularly in defense, since this is a defense committee.

If you come up with any ideas like that, you are talking to an audience that would probably welcome it.

However, be sure it agrees with the wishes of the Merchant Marine and Fisheries Committee. I would like to clear anything like that with them. We want to go ahead with this bill, but I am concerned about what you have said.

I will take no more of your time.

Mr. HOOD. May I make two comments, Mr. Chairman.

First of all, I believe there is recognition within the Defense Department, as evidenced by testimony within the last 10 days before this subcommittee by Assistant Secretary Sawyer, of the effect that the diminution of commercial shipbuilding is having on the shipbuilding industrial base, and the Navy's concerns with respect to that development.

Second, yesterday I believe there was recognition before the Subcommittee on Merchant Marine of the House committee that something has to be done with respect to maintenance of the base in terms of commercial building.

Mr. BENNETT. Very well.

Mr. Dougherty.

Mr. DOUGHERTY. Let me ask you this, Mr. Hood. Instead of going ahead with conversion of all these SL-7's and everything, suppose

Congress were to commit to the rebuilding of the American amphibious Navy, saying those ships will be built in private shipyards.

Suppose you were getting three LSD-41's, an LHA, LSD-X, and some other types of amphibious lift ship instead of the TAKX's and a commitment of the Congress to that direction over the next 5 years. Would that be better for your industry and also for the Navy, than the band-aid approach we are making with TAKX's? We are going to convert these ships, and then we are going to buy other ships and convert them, and in the long run we don't know where we are going to be.

Mr. HOOD. Well, Mr. Dougherty, it seems to me that the auxiliary programs as presently envisioned by the Navy are already pretty well fixed in concrete as a result of the congressional actions already taken. Those programs are moving along. A number of shipyards are going to participate in them. Whether or not they are a better alternative, or whether what you suggest is a better alternative, I am not really prepared to say. But those programs are moving forward.

Unless the Congress is willing to reverse their previous actions I really don't see how it is going to change.

Mr. DOUGHERTY. I find it interesting. While you were finishing your testimony I read Admiral Holloway's testimony. I guess I shouldn't bring it up until he gets a chance to read it, but on the one hand you say you need more work in American shipyards. Admiral Holloway, the Council of American-Flag Ship Operators, say we haven't enough merchant ships now to meet the need for the RDF and if you pull off the ships we currently have on line, you are going to kill the American merchant marine participation in foreign trade, and maybe you better give us the right to build new ships in foreign shipyards.

You guys are saying, we need more work for marine yards. The Council of American-Flag Ship Operators are saying, "We can't survive unless we can build foreign, and in neither case have we enough ships to meet the needs of the RDF." What I am suggesting is that the direction we ought to be looking at instead of putting band-aids on amphibious lift is to go build an amphibious Navy.

That would give you guys work, allow the Council on American-Flag Ship Operators not to be afraid they are going to lose their ships in the case of a need to send out the RDF somewhere.

That is just a comment. I guess there is no answer to it.

Mr. HOOD. I guess it depends upon your point of departure in considering these problems. There is no question that the U.S. shipbuilding industry is in trouble, and I certainly wouldn't disagree with Admiral Holloway's point that, to the extent that construction differentiation subsidy money is not available, they should have the opportunity to go abroad if they wish. But it seems to me we have to address the larger question of, do we really want a 600-ship Navy? Do we really want an adequate supporting maritime fleet? And if so, are we prepared, as a Nation, to dedicate our resources to it?

Mr. DOUGHERTY. I don't think I heard you say you would support the construction of ships overseas, did I?

Mr. HOOD. No, sir. I said I could understand their motivation.

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Mr. Dougherty. I serve on the Merchant Marine Committee. Unfortunately, I don't attend their hearings as often as I would like, because Seapower meets at the same time. I just think we are going in the wrong direction. We ought to build the amphibious Navy, which would give you guys a lot of work to do in the shipyards, and we would be a lot better off.

Mr. Bennett. Mr. Spence.

Mr. Spence. Thank you, Mr. Chairman.

Mr. Hood, I apologize for being late, but I have read your statement. I am concerned as you are about our shipyards, the work they do maintaining our industrial base. What concerns me is, it seems like most of our yards are depending on Navy work to keep them in business. Is that true? How many yards would you lose if you didn't have any Navy business?

Mr. Hood. Well, as I indicated in the statement, Mr. Spence, we have about 10 yards at present devoted to new naval ship construction, either exclusively or partially. When you analyze the new 5-year plan, you will need another 4 yards to fulfill that program.

There are 26 yards in the shipbuilding industrial base so there are 12 out there that are going to be looking for some kind of work, whatever it may be. Some of them may—actions may come too late for them.

Mr. Spence. That is what really concerns me. I see that happening in other phases of our industry too, automobiles. We might even lose our capacity before long, but it looks like we just can't compete, for one reason or another, with the yards of foreign countries, automobile plants or what have you. Is the answer that we have priced ourselves out of business from the standpoint of labor, or just what? Is it technology? There is some reason why they are building so many more automobiles and ships overseas.

Mr. Hood. You are asking a question that I think all of us lie awake at night trying to answer for ourselves. In terms of shipbuilding, I don't believe that the industry is technologically backward.

We have invested over the past 10 years about $2.3 billion in new improvements. What has been happening in terms of our industry as it relates to reducing costs and improved productivity has been an insufficient throughput of work, an unstable workload. It goes up and down, up and down, and we are really facing that right now in terms of the naval program. As I have mentioned, the employment curve has been downward since 1979. It will begin to pick up in 5 years. At that time, however, we have to go out into the labor market and recruit new people, train them and bring them back into the work force. How much easier it would have been if we had a constant, stable workload.

Mr. Spence. I understand that, I appreciate that fact, and I agree with you.

Mr. Bennett. Mr. Hartnett.

Mr. Hartnett. I don't think I have any questions. I spoke with Admiral Holloway some weeks ago when he visited my office.

Mr. Hood, I guess what you are really saying is that you can't depend on what it is going to be. I find that really strange because those who receive all the welfare programs of this country, they know they can count on that check every month. Well, we can't count on so many ships every year. I guess that is the nature of the business, that you have a Congress that comes and goes, and some are strong on things like that and others are not. I don't know whether you will ever correct the situation.

I would like your comments on something Admiral Holloway said. I can't remember everything you said, but apparently there are some Federal laws that say you are compensated, the difference between what a foreign shipyard can build the ship for and what you can build it for——

Could you explain that again?

Mr. **Hood**. In terms of merchant ships you are talking of the construction differential subsidy program. This was enacted way back in 1936, to equalize the cost of building a ship in this country with the cost of building a ship abroad. At various times that differential has ranged anywhere from 15 to perhaps even more than 60 percent. At one time the law permitted a 55-percent differential, and then it was reduced back to 50 percent. In recent years, by virtue of what I like to describe as political pricing, shipbuilders in other countries are quoting prices below cost with the blessing of their own government.

It is in this sense that I assume Admiral Holloway is saying to you that we cannot get cost procurement parity in today's world markets.

That problem is complicated by the fact that the current administration in the fiscal year 1983 budget has eliminated construction differential subsidy money. They have included in the budget documents an ambidextrous phrase——

Mr. **Hartnett**. I am getting a 10-minute answer to a 1-minute question.

Mr. **Hood**. Well, it is a complicated situation. It boils down to the fact that if CDS money is not available, Admiral Holloway and his people want to build the ships abroad.

Mr. **Bennett**. Will the gentleman yield at that point? Could I ask you if you did that, if it were available, would the people build them because of the labor cost to run the ships and the tie-in between the two? Is there some weakness there, too?

I don't know whether it is a weakness or not. I am asking. I mean would people really build them with the differential if they had to employ American seamen, or do they have to?

Mr. **Hood**. Yes. Well——

Mr. **Bennett**. Do you understand my question?

Mr. **Hood**. Yes, sir, I think I do, Mr. Chairman. The turning point here is that they would be permitted to build their ships abroad in the absence of CDS. But they would not lose the operating subsidy by which they would pay American scales for crewmen.

Mr. **Bennett**. There is also a subsidy for crewmen?

Mr. **Hood**. Yes, sir. And it is, by the way, a magnitude of 2 to 1 between the magnitude of operating subsidies and the magnitude of construction subsidies.

Mr. **Hartnett**. It is substantial.

Mr. **Bennett**. I thought there was. I was trying to put it on the record. I was trying to find an answer, really.

Mr. **Hartnett**. When you get a Congress like this 97th, you might want to tell your 75,000 shipbuilders that they can more readily depend on those green checks than whatever color checks you all issue. We are so busy paying people's light bills we haven't got time to build ships. We are going to try to change that for you.

Mr. BENNETT. If the shipbuilders in my area are any indication of how people feel generally, I don't know of a single one of them that wants to be on food stamps. I have never met a group of men, and women, too, who are more dedicated to doing a job and really enjoy their job. There are thousands of them in my district and I meet them at 4 o'clock in the morning, and I talk with them, and I don't find any deadbeats in that group.

I guess the most apprehension they have is the fact their business comes and goes. They like to work when they have it but there are long periods of time when they don't work at all. That is the greatest concern economically that I find among these people. I don't find any deadbeats in my area, or very few, anyway. They may exist in other areas.

Are there further questions.

Mr. HARTNETT. I have no further questions. Thank you, Mr. Chairman.

Mr. BENNETT. Mr. Emery.

Mr. EMERY. Thank you, Mr. Chairman. I hope you have that excerpt cut out and reprinted for campaign literature.

Mr. BENNETT. No. It is not intended for that.

Mr. EMERY. It seems to me that we have a fundamental conflict growing here between the shipbuilders and the operators, and it seems to me unless we resolve this fundamental conflict it could be that any efforts at building a useful and coordinated maritime policy could be very seriously hurt.

I wonder if Mr. Hood and Admiral Holloway both have had an opportunity to reflect on what sort of a coordinated maritime policy we might be able to work toward that would provide some incentive for the construction of ships to keep the shipyard industry, which I think is certainly a top priority and at the same time reflect on Jones' Act, ODS, and some of these other provisions that either help or hinder the operations of ships once they have been built for a commercial enterprise. That is sort of a long, wide-open question but I would be interested in your remarks, and later those of Admiral Holloway.

Mr. HOOD. I will try to avoid a long-winded answer, Mr. Emery.

As you know, the apparent thrust of the administration's policy as affecting the merchant marine today is toward elimination of CDS, elimination of title 11 mortgage guarantees, and probably, very probably eventual elimination of operating differential subsidies. So that means you have to develop alternatives.

We, and I assume CASO as well, has proposed a series of recommendations to the administration. Our recommendations center really on support of the unified position; somehow put more cargoes on American-flag ships through affirmative bilateral cargo carrying agreements with our trading partners.

Mr. EMERY. Let me interrupt you there to ask if you have reflected on the attempts of the last 4 or 5 years to move to water cargo preference provisions. We tried that for oil in American bottoms and it was finally defeated on the House floor.

Do you think the time has come when we ought to reconsider some provision of cargo preference or do you think we ought to work purely through bilateral and multilateral shipping negotiations?

Mr. **Hood**. Well, I don't like to use the phrase "cargo preference" because of the connotation that was ascribed to it a couple of years ago.

Mr. **Emery**. You will recall I voted for that.

Mr. **Bennett**. Cargo equality. If you got it equal, you would be doing something pretty spectacular.

Mr. **Dougherty**. Cargo jobs.

Mr. **Hood**. That is right.

If you increase the volume of cargoes carried by American-flag ships, you automatically increase the demand for ships, and then we as shipbuilders want to have an opportunity to compete, to build some of those ships. And we think that there has to be some real consideration given to alternatives to the elimination of CDS and the elimination of title 11, and these could very well be in the tax incentive area.

These could very well be in the area of accelerated or greater investment tax credits, something like that. But I recognize that this is not an easy task, either.

Mr. **Emery**. Several of us on this committee also serve on the Merchant Marine and Fisheries Committee, so we get a chance to see this question from both ends. One possibility that continually comes back to my mind is the greater need for coordination between merchant marine and merchant marine shipbuilding and merchant marine operators and the Navy. It seems to me there is a very logical interface between the national defense needs of one and the industrial and economic needs of the other.

If that fact is recognized, and it is a goal that is often stated, I wonder if in your opinion we have been doing a sufficiently good job trying to coordinate those activities. Because it would seem to me on the one hand we would be serving national defense and on the other hand we might be able to create the kinds of jobs that we would like to create in the merchant marine and at the same time maybe have certain construction programs. ODS and CDS were both conceived and promoted on the concept of a direct tie-in to national defense means. I wonder if you would comment on that.

Mr. **Hood**. Well, until very recently I think, in all candor, I would have to say that the Defense Department gave only lip service to the sealift merchant marine problem. Now I am encouraged by what I see, and I think in large measure it is attributable to the emphasis that this subcommittee has given to the problem. The Navy is now thinking in this very direction. We have got to do something to improve our sealift capabilities.

As I said yesterday before the House subcommittee, after Admiral Carroll had testified about the shortages we have, somewhere along the line you are going to have to build ships. Are you going to build them in foreign shipyards? I don't think so, but somewhere along the line you are going to have to build more ships. And they are going to have to be built in American shipyards, and you are going to have to have the capabilities to build them.

Mr. **Emery**. Mr. Chairman, unfortunately I am going to have to leave and won't be able to stay for further questions. I would like to have Admiral Holloway's response on the record to the same questions and points that I have raised with Mr. Hood. (See p. 266.)

Mr. **Bennett**. We will furnish them to Admiral Holloway and he can furnish them for the record.

Mr. **Emery**. I appreciate that, and I do apologize.

Mr. **Bennett**. We know you are busy.

We have a request from the Seafarers International Union for inclusion of their statement, and if it comes in by the end of this week we will include it in the record.

Thank you very much, Mr. Hood.

WRITTEN STATEMENT OF FRANK DROZAK, PRESIDENT, SEAFARERS INTERNATIONAL UNION

Mr. Chairman and Members of the Subcommittee: My name is Frank Drozak. I am President of the Seafarers International Union of North America. I am also President of the AFL-CIO's Maritime Trades Department representing eight and a half million workers in forty-three trades.

When we appeared before you last September, we were pleased to be able to share with you our views on the vital need to maintain a shipyard base in this country. We welcome today's opportunity to discuss the equally important matter of defense sealift. We are especially eager to discuss an aspect that gets too little attention—manpower.

There is a great national debate going on regarding defense. Strong views are being voiced on every side of every question. But there is one thing that we all agree on—America's defense needs more attention than it has gotten in recent years. There are few places where this is more true than in the area of sealift.

We do not pretend to be experts in this complicated area. But we pay very careful attention to what the experts say. And we are very concerned by what we hear.

The United States has slipped from a position of strength on the high seas to one of extreme weakness. At the end of World War II we were the number one naval and maritime power in the world. Today's Navy has shrunk to less than half its former size. Today's U.S. merchant fleet has gone from carrying over half of our foreign trade to carrying less than four percent. The experts agree that the merchant fleet must provide most of our sealift needs. Yet we have slipped from having several thousand ships in the late 1940's to less than 550 ships today. The Soviets have several thousand ships in their merchant fleet and more are on the way. America's active seafaring manpower base has declined from 57,000 jobs in the late 1960's to a mere 15,000 today. We have lost 1,600 jobs in the last year alone.

Even before the Reagan Administration, defense experts were voicing great concern. Under our old war plans, we were supposed to be capable of fighting a major war in Europe and a half war elsewhere in the world. But the experts warned us—time and time again—that we did not have the sealift necessary to carry out these war plans.

Under the Reagan Administration's war plans, we should be capable of fighting several wars in distant parts of the world—all at the same time. Our sealift shortage was bad under the old plan. It is even worse under the new one.

Navy Secretary John Lehman put the problem in a nutshell when he made the following point: "In the grave neglect of our Merchant Marine, we have lost sight of the teaching that a nation's peacetime commerce is a telling index of its staying power in war."

When the merchant marine is in trouble, a key link in the defense chain is weakened. If shipping companies are going broke—and their ships being laid up or scrapped—vital defense resources are being lost. If the trained American manpower pool is shrinking—and the Defense Department is having a manpower crisis of its own—then we have a very serious problem.

After World War II, shipping declined and a great many seafarers went home. As a result, when the Korean War broke out, the United States had trouble getting trained seamen. Our own organization had to launch an aggressive search for men. Consequently, we developed a keen appreciation of the need to maintain an active source of trained talent.

The problem is that the maritime industry has not been able to hold on to trained people because there has been no national policy that would create the necessary trade. Even so, we did a good job of manning the ships during the Vietnam war. We provided training at the S.I.U.'s Harry Lundeberg School of Seamanship in Piney Point, Maryland. As the record will clearly indicate, the Seafarer's International Union, along with the Marine Engineers Beneficial Association, District 2, upgraded over five hundred unlicensed personnel to engineers and deck officers to serve during that conflict.

Today, we maintain a modern physical plant with the latest equipment and a first-rate faculty. We are capable of training whatever manpower is needed to meet the nation's non-combatant maritime needs. Moreover, our school provides a valuable asset that places no demands on the federal budget.

Unfortunately, it's an asset that is only as good as the number of men it trains. With major companies going broke—and with jobs declining—we are losing ground all the time.

Part of the government's response to the problem has been to rely on flag-of-convenience ships. We believe this is a dangerous approach. The question of crew loyalty would never be there with a U.S. crew. It must always be present on the runaway flags-ships registered in countries with unstable governments. The Federation of America Controlled Shipping may believe in the so-called effective U.S. control theory. We do not. As a matter of fact, our experience during the 1973 Middle East conflict should raise questions in all our minds. Mr. Chairman, we are completely convinced that the only true effective control exists on active U.S. ships manned by U.S. crews.

The Defense Department can contribute to a positive solution to the problem by increasing its use of contract-operated vessels. We know that the response is to tell us that they already use us a great deal. The fact is that they could rely on us even more. They could—for example—make substantial use of commercial shipping for naval fleet support work. This would free scarce resources for combat functions.

Certain Navy bureaucrats always object. They argue that contract crews create problems of vessel control. We believe that this problem has a solution. It would be possible to gain effective ship control by including a few key terms in the charters. In any charter it could be stated that the master would report directly to the fleet commander for all operational orders. The Navy could require that the master be a member of the Merchant Marine—U.S. Navy reserve.

We have repeatedly stated, for our part, a willingness to make no-strike, no-interference-in-shipping contract pledges. The SIU takes pride in its past performance in meeting government requirements. Even in times of labor unrest, our union has never knowingly stopped a defense cargo from moving. And in those few cases when a contractual beef may have resulted in a delayed sailing, the military nature of the ship's cargo was never known in advance to the labor unions. The inclusion in the charter agreement of a provision requiring ship operators to notify the contractual unions at the outset of a voyage that a specific vessel was carrying government cargo would eliminate any such difficulty.

Gentlemen, our sealift problem has been with us for too long. We talk and talk and it gets worse and worse. We believe it's time to act. We believe a cooperative effort between the Navy and the merchant marine is part of the answer. We think this should include turning over certain naval fleet support work to the private sector. We respectfully urge this Subcommittee to lend its support to such a cooperative effort.

Thank you very much.

Mr. BENNETT. We now have with us Admiral Holloway, who we have had before us many times before and in various capacities, as well as his daddy before him. For a young man you are part of the heritage of America, and we are glad to have you here.

Admiral Holloway comes today as president of the Council of American-Flag Ship Operators, having left the active Navy. We are glad to have you, Admiral Holloway.

[The following is the response to questions submitted by Mr. Emery to Admiral Holloway.]

First let me say Congressman Emery that I agree with you completely. It is not only logical that there be an interface between the Navy and the merchant marine operators and shipbuilders, but that the coordination among these three is absolutely essential for reasons of national security. As I pointed out in my prepared statement, the liner operators of the U.S. flag merchant marine constitute the major portion of the sealift resources available to our military for strategic lift purposes. At the present time these U.S. flag merchant marine assets are barely adequate to fulfill one of the key requirements of our current military strategy—the deployment of the RDF to Southwest Asia. A continued decline in our merchant marine will result in a U.S. flag merchant fleet unable to fulfill these requirements, and the basic military plans of our defense establishment in support of the President's foreign policy will be unexecutable.

Similarly, the United States shipbuilding industry has a major role to play in our national defense planning, in that it provides the major part of the industrial base for support of the fleet and the merchant ships which constitute the sealift. This inter-relationship of the Navy, the merchant marine, and the shipbuilding industry has been recognized for some years. As you point out, CDS and ODS were subsidies designed to support a strong merchant marine and maintain a healthy shipbuilding base. It is my opinion that the only practical means of justifying a U.S. flag merchant marine today is on the basis of its role in our national defense plans. It is also my view that over time this interrelationship has eroded. CDS for all intents and purposes has been eliminated for the foreseeable future. yet the military interests in the Executive Department and in the Congress—that is the Armed Services Committees—have never really been consulted or involved in the elimination of this subsidy, the purpose of which was to maintain our sealift and shipbuilding capabilities, in support of the national defense needs of the nation.

Speaking for the operators which I represent, I must point out that there is no official relationship between the Navy and the merchant marine operators that directly addresses the mobilization or contingency sealift requirements of the Department of Defense in terms of specific needs for U.S. flag shipping. The day to day merchant marine support of DOD peacetime logistic requirements are handled through the Military Sealift Command, as is the mechanism for "Call-ups" of privately owned vessels under the Sealift Readiness Program. The requisitioning of merchant marine assets under conditions of a Presidential declaration of national emergency is accomplished through the Maritime Adminstration and the National Shipping Authority. But frankly, I see no organizational arrangement which assesses the ability of the merchant marine to fulfill the contingency or mobilization needs of the military in terms of sealift. There seems to be merely an assumption that when the time comes to call upon the merchant marine to provide the needed hulls in the numbers and varieties required by the particular contingency or operation, that those ships will be there and available. I am beginning to have very serious doubts that this is going to be the case in the future, unless some very positive steps are taken to improve the coordination between the military sealift requirements of the Department of Defense and the U.S. merchant marine operators.

I do not blame this shortcoming on any individuals or organization. The problem of the mismatch between assets and requirements in this area has not always been with us. In the recent past, the National Defense Reserve Fleet and the operating merchant marine combined, were adequate. Today with the progressive scrapping of the NDRF due to overage, and the declining numbers in the private merchant fleet, the mismatch is becoming acute.

My own view is that the coordination between the Navy and the merchant marine operators needs to be substantially improved, so that there is greater concern and responsibility in the Department of Defense for the state of the industry and its ability to respond to sealift requirements. I firmly believe that this Committee could be instrumental in achieving such an objective, by continuing to examine the role of sealift as a component of our military strategic mobility forces, and the ability of our merchant marine to fulfill that role. I believe that the concept of the original purpose of subsidies—CDS and ODS—has been largely forgotten, and the function of the U.S. flag merchant marine as an essential arm of our military capability, severely neglected.

There has never been a time more important than today, when these points need to be reaffirmed, as our military needs for modern responsive sealift increase, and the size of the merchant fleet required to fulfill those requirements, continues to decline.

STATEMENT OF ADM. JAMES L. HOLLOWAY III, USN (RETIRED), PRESIDENT, COUNCIL OF AMERICAN-FLAG SHIP OPERATORS, ACCOMPANIED BY ALBERT E. MAY, EXECUTIVE VICE PRESIDENT AND GENERAL COUNSEL, COUNCIL OF AMERICAN-FLAG SHIP OPERATORS

Admiral HOLLOWAY. Thank you for that nice greeting and those warm words, Mr. Chairman.

Mr. Chairman, I am Adm. James L. Holloway III, U.S. Navy (retired), president of the American-Flag Ship Operators (CASO), and I am accompanied here today by Mr. Albert E. May, executive vice president and general counsel for CASO.

Mr. BENNETT. We are glad to have you, too.

Mr. MAY. Thank you.

Admiral HOLLOWAY. CASO represents the majority of U.S.-flag liner companies serving the foreign commerce of the United States. Our member companies own and operate a modern and diversified fleet of 161 break-bulk, barge-carrying, container and roll-on roll-off vessels. All of these ships are available under various programs for use by the United States during times of military emergency.

I appreciate the opportunity to appear here to present CASO's views on the Defense authorization bill for fiscal year 1983.

The fiscal year 1983 defense bill includes the conversion of 4 SL-7 fast logistics ships and the chartering, conversion and deployment of 12 to 15 maritime pre-positioned ships for Southwest Asia. The SL-7s will provide a capability for rapidly moving a heavy combat division, and the pre-positioning of equipment and supplies will reduce the time required for deployment of heavy forces to the Southwest Asia region.

These are only part of a more than $6 billion program to enhance the sealift capability of our national strategic mobility forces.

Sealift is absolutely essential to the success of our military strategy and to the execution of our military contingency plans.

Because of their heavy mechanization and volume of firepower, enormous quantities of combat consumables are involved in the movement and support of modern ground forces. About 100,000 tons of cargo must be moved with the deployment of a mechanized division and more than 1,000 tons per day must be delivered for its support.

Airlift is planned for the rapid movement of troops to join up with pre-positioned equipment, but airlift is limited in terms of outsize equipment and total volume. During the 1973 Arab-Israeli war, the U.S. airlift to Israel required 6 tons of fuel for every ton of cargo delivered. Sealift is used for the bulk of unit equipment and its logistic support. During Vietnam, more than 95 percent of all support for that conflict went by sea. One modern container ship can deliver the equivalent cargo of 150 C-5 aircraft.

I would add here that there are only 70 C-5 aircraft in our inventory.

In a general war with the Soviet Union, we can expect substantial sealift help from the merchant fleets of our allies: Japan, Korea, and NATO.

A more likely scenario than general war with the Soviet Union is a limited conflict similar to Korea or Vietnam. Southwest Asia (the Middle East/Persian Gulf region) is a theater of critical importance to the United States for both political reasons and the security of the petroleum supplies of the United States and its allies. The probability of trouble in this region is high. The Southwest Asia Command is being established, and the rapid deployment force (RDF) is being tailored for operations in this theater.

For the deployment of U.S. forces into Southwest Asia in a contingency operation, the United States must depend upon U.S.-flag shipping. History has repeatedly and consistently demonstrated that our allies are not going to participate in operations involving Arab or Moslem countries. The threat of the oil weapon to their economies is too great.

A major deployment of the Rapid Deployment Force to the Southwest Asia theater would require the continuous commitment of about 350 cargo ships. This assumes that the 8 fast deployment ships [SL-7s) would conduct the initial movement of forces and the 12 prepositioned ships [TAKX) would be on station to provide the heavy organizational equipment for the troops and deliver the initial increment of combat consumables.

The government-owned sealift assets of the Military Sealift Command include 30 freighters in the Ready Reserve Force which would be activated and fitted out with crews within a week or so, and about 140 additional World War II freighters laid up in the National Defense Reserve Fleet. These could be broken out and manned with crews over a considerably longer period of time. This leaves a sealift shortfall of about 180 cargo ships which will have to be provided by the U.S. merchant marine.

So the status of the U.S. liner fleet "liners" is the term used for dry cargo ships, and I will be using them interchangeably—is of particular importance to defense planners because these are dry cargo ships—break-bulk, freighters, container ships, barge carriers (Lash, Seabee) and roll on-roll off (RO-RO) vessels—the kind of vessels required for most of the sealift needs in support of overseas military operations.

There are currently 247 privately owned general vessels in the operating U.S. merchant marine. The commitment of 180 of these liners dedicated to sustaining sealift of a deployed RDF, would leave only 67 U.S.-flag liners serving the U.S. foreign trade. Such a widespread vacating of the U.S. trade routes to foreign competition could very well doom the future of the U.S. merchant marine in international trade.

As a minimum, U.S. defense planners must be concerned that the U.S. merchant marine is not reduced below its present size, or there will be inadequate sealift available for current war plan requirements. Preferably, the liner force should be expanded by about 100 ships so that a major commitment for sealift in a contingency operation would not destroy the future viability of the U.S. merchant marine. Thus, the interests of the Department of Defense would be best served by an expansion of the liner fleet from its present level to about 350 ships through normal growth stimulated by increased trade.

The current situation of the U.S. merchant marine is one of declining numbers of ships and a diminishing share of the U.S. foreign trade. In 1950 the U.S. merchant marine was the largest in the world and carried 42 percent of our foreign trade. Today it ranks eighth in size and carries less than 4 percent. There are today 545 privately owned ocean-going ships operating under the American flag. These consist of 247 general cargo, 267 tankers, and 31 others. Although the liners are the healthiest and most competitive sector, they are today carrying only 27.5 percent of our foreign liner trade, down from more than 30 percent in 1977.

The most serious impediments to more effective competition with foreign carriers are the higher costs of the American flag fleet, restrictive U.S. laws, and the lack of a coherent U.S. cargo policy.

The annual labor cost for a 32-man U.S. crew amounts to about $2.75 million a year compared to about $1.3 million a year for an Italian crew on a similar size ship. A 60,000-ton bulk carrier built in a U.S. yard costs $100 million compared to $28 million for a similar ship constructed in Japan. Both of these disadvantages have in the past been offset to a large degree by subsidies, which pay the difference between foreign and U.S. labor and construction costs.

However, since 1981 there have been no construction differential subsidy funds in the President's budget. This has been temporarily offset by a change in the law which permits U.S.-flag operators to build ships in foreign yards until September of 1982.

Some U.S. liner companies, especially the smaller ones, are finding it difficult to survive even with subsidy, because they are unable to make the capital investment in the highly mechanized, advanced cargo handling equipment and facilities required to achieve the efficiencies necessary to be competitive with foreign shipping. Furthermore, our antitrust laws will not permit the U.S. companies to merge, consolidate, or pool their assets or services to achieve the reductions in overhead and economies of scale.

Generally, in addition to being highly subsidized by its government, and operating under national policies which reserve large percentages of that nation's trade to be carried in its own ships, the foreign competition can merge to form larger companies to pool capital for investment, and form "closed conferences" which are cooperative arrangement in which rates are set and schedules coordinated. The antitrust laws of the United States prevent U.S.-flag operators from doing either of these.

In recognition of the inhibiting effect of antitrust laws on U.S. carriers attempting to compete with foreign flag ships in the international trade, the Shipping Act of 1916, among other things, provided antitrust immunity to U.S.-flag shipping under certain circumstances relating to foreign trade. The 1936 Merchant Marine Act reinforced and brought up-to-date these provisions. In recent years, however, court decisions have tended to erode the primacy of the antitrust immunity provisions established by these acts.

Today the threat of criminal prosecution and triple penalties deter U.S.-flag operators from even considering many constructive actions intended by the 1916 or 1936 acts to strengthen our merchant marine's competitive position. Primacy of the Shipping and Merchant Marine Acts needs to be reaffirmed.

Faced with this array of problems, it is no wonder that U.S.-flag merchant ships have been disappearing from the trade lanes of the world's oceans in increasing numbers. Now the United States is approaching the point where this downward trend of our maritime industry must be reversed, or we invite the disintegration of our merchant fleet and irreversible damage to our national maritime capabilities.

The U.S.-flag liner fleet is today only marginally capable of fulfilling the strategic sealift requirements of our most vital military plans essential in the support of U.S. foreign policy.

It is against this background of declining capabilities and growing requirements that the Council of American-Flag Ship Operators prepared a program of actions designed to reverse the decline of the industry and regain a position of economic strength and strategic capacity adequate to fulfill the industrial and military requirements of the United States.

The goals of the long-range liner plan are to increase its share of the foreign liner trade of the United States to not less than 40 percent, and in so doing, expand the liner fleet so that it will be fully capable of carrying out the military sealift requirements of our defense plans.

The main objectives of this program are regulatory reform, fleet modernization and replacement, and increased cargoes.

Regulatory reform would be accomplished through legislation such as the Ocean Shipping Act of 1981 (S. 1593), which would go a long way toward removing the restrictive burdens currently imposed on U.S.-flag carriers by redefining conference activities and providing antitrust immunity.

Fleet modernization requires the construction of new vessels or the modification of existing ships to provide replacement vessels with significantly improved efficiencies in propulsion systems, manning levels, and cargo handling equipment.

In the absence of construction differential subsidy—and let me re-emphasize this because it relates very much to what Mr. Hood has said. I say in the absence of the construction differential subsidy the only solution seems to lie in an extension of the authority to build overseas, and permission for the U.S.-flag operators to use their capital construction funds (CCF) for this purpose.

I will add at this point that the companies that make up CASO have over the years built the majority of commercial ships that have been constructed in U.S. shipyards. The CASO companies would prefer to build their ships in American shipyards, but without the differential provided by the Government the economic penalty is simply too great. So it is not a question of building in the United States with or without subsidy.

Without subsidy and without the authority to build overseas the operators are simply not going to build any more ships and are going to fade out of business.

Although some increase in cargo share can be expected from the improved competitive position resulting from regulatory reform and fleet modernization, there still remains the problem of competing with foreign carriers which benefit from national policies affording various forms of cargo preference and subsidization. The answer, in our view, appears to be a system of bilateral agreements such as those now in effect with Brazil and Argentina which reserve 40 percent of the trade for each partner, and the remaining 20 percent for cross traders.

To carry out this industry plan will require little, if any, additional outlay of Government funds. In fact, many of the proposals would result in overall savings.

In summary, adequate sealift is absolutely essential to the success of our military strategy and to the execution of our military contingency plans. In the most probable scenarios for RDF contingency operations, 180 commercial U.S.-flag ships will be required. The U.S. merchant marine is only marginally capable of responding to this requirement, and then only at the cost of almost total withdrawal from our foreign trade. In achieving an economic goal of a 40-percent share of the foreign liner trade, the U.S. liner fleet would expand to a size capable of fulfilling all U.S. military sealift requirements.

To attain these goals, the long-range plan for the liner industry calls for:

Regulatory reform to remove the restrictive burdens currently imposed on U.S.-flag vessels in our foreign trade.

Modernization of the liner fleet to achieve greater efficiencies in propulsion systems, manning levels, and cargo handling equipment.

Bilateral agreements to share the foreign cargoes with our trading partners.

The industry plan requires no additional outlay of Government funds.

Mr. Chairman, this completes my prepared statement on the fiscal year 1983 defense authorization bill. I would be happy to try to answer any questions that you or members of the committee may have with regard to this statement.

Mr. **Bennett**. On the whole, I thought your statement was tremendous. I kind of question one thing when you said the industry plan requires no additional outlay of Government funds, but of course it really does as far as subsidies are concerned. I guess the way you are saying that is that it won't require any if you allow them to build in foreign shipyards. To that extent you are correct.

But you are really not recommending that; you are recommending that it be done in American shipyards with the subsidy. Is that right?

Admiral **Holloway**. Yes, sir. You are right. If we say additional expenditure of funds, that is additional over what the expenditures were in the time of CDS. If CDS is gone forever, as some people feel this may be, then if we build foreign, there is no additional expenditure of Government funds.

Mr. **Bennett**. Let me say this. I don't think there is a member of this committee or a member of the Merchant Marine and Fisheries Committee who doesn't hear what you are saying with great concern and desire to do something about it. You have my attention completely. Although I would think that probably the thing would go before the Merchant Marine and Fisheries Committee rather than before this committee, and might even go before the Foreign Affairs Committee as well, I would be very, very deeply appreciative if somebody like yourself could get one of your lawyers to draft a bill that we could introduce which would deal with all these things, even including the section which I don't think would come to this committee normally, which has to do with directing the executive branch to undertake bilateral arrangements with regard to shipping.

The reason I am suggesting this all be in one bill even though it goes to a number of committees is that to do it piecemeal may not catch attention. If you have one overall bill that goes to national defense, for the health of our overall shipping and getting us back in a fair position with regard to other nations, if all this was embodied in one bill, I think that bill would have a good chance of passage.

I think if you did it bit by bit it wouldn't have that good a chance. The only problem is that it would have to go to several committees, which does slow it up. I am not trying to push this at you, but if you could have somebody give a draft to me, it would be very much appreciated.

Admiral HOLLOWAY. Mr. Chairman, we would be delighted to do that.

Mr. BENNETT. Mr. Dougherty.

Mr. DOUGHERTY. Thank you, Mr. Chairman.

Let me say, Admiral, in response to your question about foreign construction, this member answers no, never, and I think that is the opinion of a majority of the members I associate with. There is no way we will allow the building of ships overseas. I think a more appropriate response would be to come up with other solutions, the H.R. 4420 or S. 1593.

Has anyone in the House introduced S. 1593?

Admiral HOLLOWAY. I think the Biaggi bill is the counterpart.

Mr. DOUGHERTY. That is H.R. 4420 of which I am a cosponsor. Is there another Biaggi bill?

Mr. MAY. I forget the number, but it is one on which they have held several hearings and it is a companion to S. 1593.

Mr. DOUGHERTY. It might be appropriate, Mr. Chairman, for this committee in its report on the authorization bill this year to indicate its support for the two Biaggi bills which address the two concerns which have been expressed. The H.R. 4420 and the other as it relates to antitrust violations.

Mr. BENNETT. We could certainly express in our report support for the ideas involved in the bill. That certainly could be done.

Mr. DOUGHERTY. Admiral, we really don't have enough ships to meet the contingency plans for the Rapid Deployment Force, do we? You very nicely have used the phrase "marginally capable." We are not capable, are we?

Admiral HOLLOWAY. It is my opinion, Mr. Dougherty, we are not, because in this rack-up of numbers I gave you I include 140 ships out of the National Defense Reserve Fleet, and I point out that these are World War II-type ships that have been in mothballs. It is my opinion that when they are surveyed by the teams that are going out now to take a look at them, that a very large number of those ships will be found inadequate for mobilization purposes.

Mr. DOUGHERTY. Mr. Chairman, I would like to just make sure that point is emphasized in the record, because what the Admiral is saying is that our grand plans for the RDF don't fly because, in effect, we haven't the sealift to get the job done. We continue to play games with numbers; as the Admiral has mentioned, 140 World War II freighters. It is my understanding it would take literally months at best to get those things rebuilt if we could. We haven't the shipyard capability today to rebuild them in any kind of emergency timeframe.

I think we have a very serious problem here that we ought to address when we talk about RDF and lift. I go back to the point again that we have to rebuild the amphibious Navy.

On your comments about pulling ships out of the regular merchant marine, you indicate that we would have to take 180 liners out of the normal international trade routes to provide for the RDF. Is that correct?

Admiral HOLLOWAY. Yes, sir.

Mr. DOUGHERTY. That would just devastate the entire international trade situation, would it not?

Admiral HOLLOWAY. Yes; that would be 180 commercial ships, if 140 of those World War II laid-up ships could be made available. Therefore, that is the minimum. It would probably be more than 180, leaving something less than 60—down to zero—to continue our share of the foreign trade of the United States. I think it would be a blow from which our merchant marine would never recover.

Mr. DOUGHERTY. What you are saying is we have a need for 350 ships to carry the RDF, but if we drop out the 140 World War II, the 30 Ready Reserve Force ships, that is 170 down. There are only 545 total flag ships in the United States today. Is that your testimony?

Admiral HOLLOWAY. Yes.

Mr. DOUGHERTY. There are 167 tankers. It would appear to me, Mr. Chairman, we haven't the ships for the RDF unless you want to count those World War II ships. That I think is totally unrealistic.

Thank you.

Mr. BENNETT. We appreciate very much your coming, Admiral Holloway. As usual, you have made a very fine statement.

STATEMENT OF CAPT. CURTIN R. COLEMAN II, U.S. NAVAL RESERVE, PRESIDENT, NAVAL RESERVE ASSOCIATION, ACCOMPANIED BY ADM. JAMES FORREST, NATIONAL EXECUTIVE DIRECTOR, AND CAPT. JOHN BELL, CONSULTANT

Captain COLEMAN. I have with me today, on my right, Rear Adm. James Forrest, national executive director of Naval Reserve Association and Capt. John Bell, on my left, who is a consultant to Naval Reserve Association. I am happy to note that in the room today is a gentleman I know you know, Adm. Phil Smith, a past president of Naval Reserve Association.

Gentlemen, we have provided the committee with a written statement. I would like to at this time summarize that statement.

Mr. BENNETT. Without objection your full statement will be made a part of the record, and you may summarize.

Captain COLEMAN. Mr. Chairman, and committee members, the Naval Reserve Association is deeply appreciative of the opportunity you have provided for us to testify before your subcommittee today. It is largely through the chairman's and the committee's determination, dedication, and skill that this Nation has even the present assets and capability to fight a war at sea. We take this opportunity to thank the chairman for his strong leadership in this regard.

This is the second year that NRA has testified before the Seapower Subcommittee, and we look forward to an ongoing working relationship with your committee. We have purposely kept our testimony mainly on those issues either directly under the cognizance of this committee or closely related.

NRA fully supports the administration's proposal to build the Navy back up from its present position of maritime inferiority. The success of the effort to regain control of the seas could well determine whether this Nation survives or whether we will be challenged by an opponent who perceives our weakness and decides it is the opportune time to challenge our world leadership. NRA is convinced that actions can be taken which will give the Nation more fighting capability at the same or less cost. The thrust of this argument, of course, is greater dependence on the Guard and Reserve.

President Reagan voiced his intention of building up the Reserve Forces very forcibly during his campaign, and Secretary Weinberger committed the administration to the same goal during his confirmation hearings in the Senate last year. While we have been very pleased with the strong bipartisan effort to shore up the Defense Establishment, we also believe that more thought and planning should be demanded on the Pentagon's part on where the Reserve components can do the job and save considerable money at the same time. Maintaining a huge standing Army, Navy, and Air Force is tremendously expensive and any portion of that force which can be assumed by a Reserve component is that much less of a burden for the taxpayers. Also, the larger the Guard and Reserve contribution, the more support is available from the citizenry.

The CNO, Admiral Hayward, said in his posture statement that the Naval Reserve had made impressive readiness improvements thanks to the persistent efforts of the Congress. Secretary Lehman spoke of the introduction of the FF-1052 *Knox* class frigates, the FFG-7 *Perry* class frigates, to include at least 24 frigates, as well as updated and modern mine warfare and support craft.

NRA applauds the new look for the Naval Surface Reserve Force and thanks the Congress for its persistence in modernizing the surface NRF. The program is receiving top level attention in the Navy now; consequently, it has a good chance of succeeding. NRA believes that with support from the Navy and the Congress, a greater contribution can be made to the total force by the Naval Reserve.

A long-range plan is necessary with a migration of current assets from the Active Force into the Naval Reserve. This plan would enable the Active Force to concentrate on peacetime deployments, improvement of tactics, and the development of new weapons systems. The Naval Reserve would gradually but systematically assume many of the wartime missions now in the Active Force.

One of the missions which the Naval Reserve dominates is the mine warfare role. As the CNO stated in his posture statement, the mine warfare task was neglected during the past decade. The minesweepers now in the NRF are being decommissioned with no replacements for several years. It is hoped that mine warfare will be given a high priority in the balanced force referred to by Secretary Lehman. With the tremendous mine-laying capability of the Soviets our seaports could be bottled up for long periods of time without mine countermeasure systems to clear the harbor approach and departure lanes.

Before discussing other missions and tasks for the Naval Reserve, it is emphasized that the assumption of a considerably large share of the wartime capability must be phased in—it cannot be dumped upon the Naval Reserve at one time. Although this committee is not directly involved in the numbers in the Naval Reserve as a committee, the strength is of concern to you. NRA is asking for a gradual increase in the Naval Reserve strength to the wartime requirements validated by the NAMMOS (Navy manpower mobilization system) which has also been endorsed by the OSD. NRA believes that this goal can be reached by the end of fiscal year 1986 and that it will be a quality product.

One of the considerations which would have to be addressed when deciding where tasks should be assigned is the Navy deployment schedule. Is it necessary for the United States to deploy so many units to so many places for such long periods? Why can't we leave more units overseas between overhauls or yard availability periods and fly relief crews back and forth? The one-up two-back costs a lot of time and fuel oil in transiting back and forth across oceans. A modified overseas homeporting policy mentioned above would also allow sailors to spend more time stateside with their families.

The maritime convoy escort role has been assigned to the Naval Reserve by mutual agreement of the Congress and the Navy. The present plan schedules a minimum of 24 frigates, FF-1052 or FFG-7, into the Naval Reserve Force during the next 5 years. The House Armed Services Committee report on the fiscal year 1981 Defense Authorization Act explained its rationale for increasing the buy of FFG-7 guided missile frigates as providing an economic building rate and making some frigates available for use by the Naval Reserve Forces.

The Congressional Budget Office has estimated that as many as 273 escorts could be needed in the North Atlantic alone to provide the protection needed for support of our deployed forces in wartime. The NATO allies could only supply around 20 percent of that number and the Naval Reserve Force the remainder—54 NATO, 9 Naval Reserve Force. Navy policy gives priority to procuring large, expensive surface ships and submarines that have significantly greater firepower than their smaller counterparts. Although NRA does not argue with the Navy decision to go with the high mix, it obviously leaves the maritime convoy escort role with very few assets.

This brings up point one regarding the Naval Reserve and the introduction of FFG-7's into the NRF. The present plan calls for only 12 FDFG-7's to be ordered in the fiscal years 1983-87, 2 each in fiscal years 1983, 1984, and 1985 and 3 each in fiscal years 1986, and 1987. NRA believes that the Congress should consider increasing the buy of these ships to help alleviate the critical shortage for the wartime convoy escort role and at the minimum reschedule the planned buy of 12 to procure 3 each in fiscal years 1983 and 1984 and 2 each in fiscal years 1985, 1986, and 1987.

Another possible solution for convoy protection is the Arapaho program, a concept which places ASW helicopters onboard merchant ships. Arapaho is a self-contained defense force low in cost, highly flexible, and compatible with an international mix of ships. It utilizes existing assets so there is no "betting on the come," waiting for more advanced technology. The concept is capable of adapting to missions other than just convoy protection such as mine countermeasures, close air support with either helicopter gunships or harriers, convoy supply support, et cetera.

NRA has endorsed and supported the Arapaho program for years as a possible low cost answer to ASW protection for convoys or other higher value targets transiting the sealanes in support of our deployed forces in wartime.

The update on Arapaho by Mr. Mulquin in the February 1982 issue of the NRA News was an upbeat report by an individual extremely knowledgeable and close to his subject. It is obvious by reading Mr. Mulquin's article that the Arapaho program with its tremendous potential of providing a low cost answer to a supplemental ASW coverage of the sea lanes, deserves a thorough testing and evaluation. I ask for permission to insert in the record at this point the article from our newsletter by Mr. Mulquin.

Mr. **Bennett**. Without objection it is so ordered.

Captain **Coleman**. Thank you, sir.

[The following information was received for the record:]

THE NAVY ARAPAHO PROJECT—A STATUS REPORT

(By James J. Mulquin)

Significant progress has been recorded this past year in the Navy's Arapaho Project—progress that has a direct relationship to the effectiveness and application of the Naval Reserve in modern sea warfare. A vital "vote of confidence" was cast in October when the Joint Senate-House Armed Services Conference Committee voted in favor of continued Arapaho development, including preparations for tactical evaluations of the system at sea in an operational environment. This action comes at a crucial time for Naval Aviation and especially, the Naval Air Reserve helicopter community, where a question continues to arise as to the mobilization potential of our helicopter ASW units.

Arapaho is a Navy research and development project designed to investigate the feasibility of operating ASW helicopters in periods of emergency from the decks of merchant ships. The concept attempts to exploit the inherent potential of many modern NATO cargo ships: large displacements (20,000–50,000 tons), wide, unobstructed, topside space (over an acre on many hulls), recent construction (most under 10 years of age), fast (some make a respectable 33 knots) and extremely high-value targets during a crisis. If modern container ships can successfully accept standard-size modules—configured to form a large hangar, two-spot flight deck, aviation fuel system, Navy personnel accommodations and basic aviation logistics support—it is conceivable that such mobile facilities can be activated in a matter of hours, transferred by highway and rail to the nearest commercial port, and installed in lieu of topside container cargo aboard ship. The ship would still carry 70-75 percent of its normal cargo. Mobilized Reservists, with their existing Sikorsky SH-3 ASW helicopters and support—weapons, sensors, tools, spare parts—might be able to man the Arapaho and be deployed in a sea lane or with a convoy in a little as a day or two, forming an important, functional augmentation to conventional commissioned naval forces.

Arapaho, despite efforts by the CNO and his staff to develop a demonstration model, has been plagued by funding shortages and competing resource priorities.

For a time, it appeared improbable that Arapaho could survive in the budget arena. Two major milestone events, however, have altered that situation and provided added confidence in the concept's worth.

In October, 1980 a semi-complete Arapaho was located on a simulated ship main deck erected over a runway at NAEC Lakehurst, NJ. Although only partially equipped and with major components still to be added, Arapaho successfully recovered a Naval Air Test Center SH-3H "Sea King" helo. The 19,000-lb aircraft made ten landings and takeoffs from the 13,000 sq. ft flight deck and demonstrated the feasibility of day operation from the novel platform. Radio communication was maintained between the aircraft and "pri-fly," just as would be done in actual deployment at sea.

In February of this year, critical elements of the Arapaho prototype—some 13 truckloads—were shipped from Lakehurst to a commercial pier at Baltimore, Maryland. There, courtesy of the Maritime Administration and Farrell Lines, a typical merchant container ship, the 18,000-ton *Export Leader*, was made available for preliminary ship compatibility tests. In a period of 4-5 hours, using regular civilian pier personnel and standard gantry crane, without any special briefings or orientation, basic structural elements of Arapaho were successfully loaded on to the freighter's main deck—flight and hangar deck modules, hangar van units and a main aircraft roller-curtain door—and shown compatible. No aircraft landings were made.

Currently priority work involves completion of the Arapaho structure, a full safety and functional checkout of all systems at Lakehurst, and conduct of remaining day and night helo landings. After being satisfactorily demonstrated ashore, the system will be deployed off the East Coast and tested with SH-3H aircraft from NATC Patuxent River and similar "Sea Kings" of the United Kingdom. Royal Navy interest and support of Arapaho has been a major factor in its successful development and has served to encourage support within the Senate and House Armed Services Committees.

Although there is only modest Naval Reserve participation to date in the program, Congressional guidance has repeatedly made reference to the Reserve mobilization potential inherent in the concept.

It has been suggested, in fact, that the use of activated Reserve assets—aircraft, support "pack-up" kits and trained ASW personnel—are essential if Arapaho is to achieve its rather ambitious goal of rapid introduction to the sea lanes of the North Atlantic in emergencies.

Arapaho has been described by knowledgeable naval sources as the catalyst that may cause the Naval Reserve to become a major element in the emerging Rapid Deployment Force. Based on current force projections from such authoritative open reference as Jane's and Norman Polmar's Ships and Aircraft of the U.S. Fleet, it is evident that NATO will not have adequate resources to satisfactorily defend critical SLOC (sea lanes of communication) for a considerable period. If a form of competent, indigenous defense—such as Arapaho "self-defense" detachments deployed world-wide aboard freighters and tankers—can be devised, it might well drive a demand for a wholly-new and quickly-deployable Naval Reserve organization structure. Such Reserve units could be utilized not only on logistic routes, but in support of Marine assault units, manning ships of the supporting echelons and providing the aviation platforms and aviation support necessary for large-scale amphibious operations.

With the added support proposed for fiscal year 1982, Arapaho development will focus on two primary objectives:

Successful feasibility demonstration at sea with day and night helo operation by US and UK aircraft/flight crews. This is tentatively scheduled for Fall, 1982 and is the conclusion of Phase I effort.

Start of Phase II by completing the personnel accommodation units ("Motel" vans) and preparing for later deployment of Arapaho aboard various NATO container-type freighters to establish tactical, operational merit. It appears highly likely that Naval Reserve SH-3D squadrons might be temporarily activated to support this phase. Although not presently planned, there is always the possibility that Marine Corps interest might lead to feasibility demonstration of the McDonnell-Douglas AV-8B "Super Harrier" aboard Arapaho. This would be as a supplemental sea-based platform to current LHA/LPH "Harrier" deployment.

In summary, Arapaho seems to offer a practical way of optimizing the skills and mobilization potential of the Reserve forces. Strong support exists in both Houses of Congress for such application. The merchant ships already exist along with their civilian crews. As a matter of fact, there are apparently far more Arapaho-compatible ships—perhaps 200 within NATO registries—than aircraft to assign to them.

The Arapaho primary development model is about 85 percent completed and quickly nearing full tests status at Lakehurst. Based on 1978 cost estimates, the facility is still within 14 percent of its target, a rather phenomenal figure considering unprecedented inflation indexes. All major components (generators, hangar doors, fuel pumps, safety/firefighting) are on hand and being assembled in the facility. No technical obstacle or design flaw of any consequence has been identified to date, a tribute to the project officers, skilled engineers and technicians of the Naval Air Engineering Center. From every major standpoint, Arapaho seems to have fulfilled the predictions of its many backers and is being viewed as a significant step forward in restoring our ability to project naval forces in periods of crises.

Captain COLEMAN. Last year the CNO testified that it would take approximately $12 million over a 3-year period to complete the project. The British, Canadians, Australians, and Germans are very interested in the concept. The British, in fact, have taken an active part in the tests and evaluations. The Commandant of the Marine Corps has expressed an interest in testing the suitability of the platform for deploying Harriers at sea. It would appear from even a casual observation that it would be negligence on the part of our planners not to fully evaluate the Arapaho concept.

It is recommended that the Navy raise the priority of the Arapaho project to expedite the objective tests and evaluations to determine the feasibility of placing the Arapaho concept into production and operation.

Further, that the Congress fund $4 million for fiscal year 1983 to continue phase II, the tactical and operational testing of Arapaho.

In addition to the possibility of utilizing the Arapaho concept for certain aspects of mine warfare, NRA also recommends other possibilities be explored which can produce an instant Navy in time of war at a very low cost.

Historically, minesweeping, when it is required, involves large numbers of ships and boats and the efforts of thousands of men. At the peak of World War II, for example, the allies had committed over 200,000 men and several thousand ships to the minesweeping role.

NRA believes that there is a tremendous potential waiting to be exploited which needs to be addressed. For want of a better term, let's talk to the question of the potential applicability of craft of opportunity—another name for trawlers, which assist in picking up, at short notice, the enormous burdens of minesweeping that would be required to counter a major mining campaign.

Given the present advancements in materials and techniques in mine countermeasures, it is clear that more thought needs to be devoted to the design of modern U.S. trawlers. Study effort should focus on defining needs so that at an early stage construction may incorporate those design features in our trawlers that will facilitate their rapid conversion in time of need to full-fledged minesweeping vessels.

This could be an ideal Naval Reserve mission and would necessarily require an agreement between the Government and the crafts' owners as to the joint utilization of the craft. It would also serve to disperse the craft at the seaports on all coasts, making them available for most any contingency.

Mr. Chairman, the Naval Reserve Association strongly recommends that this committee take the lead in working with the Navy in transferring to the Naval Reserve as many wartime tasks as possible. Obviously, it would have to be a phased-in program, but it is one which should be done as soon as possible so that the potential savings to the taxpayer can be realized as early as the budget process will allow.

NRA is fully supportive of the extensive buildup in naval strength to a position of maritime superiority once again. To do otherwise would be very dangerous to our national welfare.

NRA has recommended a minor modification to the scheduled procurement of FFG-7's to speed up the transfer of active assets into the Naval Reserve Federation and has asked the committee to consider the procurement of additional, relatively low cost FFG-7's for the wartime convoy escort mission. Also, we have asked the committee to speed up the tests on the Arapaho concept.

Also offered for the committee's consideration were several suggestions for crew relief aboard deployed ships. Deployment requirements should be looked at to determine if there is a valid need for the continued commitment of the significant numbers of ships now in that very demanding deployment cycle.

The Naval Reserve Association looks forward to the time when the Naval Reserve will be pulling its weight as far as the fair share of the total Navy mission is concerned. The Naval Reserve community has the experience, the desire, and the potential to assume a significantly greater role in the total Navy structure at much less cost than is presently projected.

Mr. Chairman, the Naval Reserve Association sincerely appreciates your strong and sometimes lonely effort to provide this Nation with the seapower it needs for survival. We look forward to your continued leadership and the opportunity to work with you in reaching our common objectives, that of regaining maritime superiority at the lowest possible cost and in the shortest possible time.

WRITTEN STATEMENT OF CAPTAIN CURTIN R. COLEMAN II

Mr. Chairman, committee members, the Naval Reserve Association is deeply appreciative of the opportunity you have provided for us to testify before your subcommittee today. It is largely through the Chairman's and the committee's determination, dedication, and skill that this nation has even the present assets and capability to fight a war at sea. We take this opportunity to thank the Chairman for this strong leadership in this regard. This is the second year that NRA has testified before the Seapower Subcommittee and we look forward to an ongoing working relationship with your Committee.

NRA fully supports the Administration's proposal to build the Navy back up from its present position of Maritime inferiority. The success of the effort to regain control of the seas could well determine whether this nation survives or whether we will be challenged by an opponent who perceives our weakness and decides it is the opportune time to challenge our world leadership. Secretary Lehman and Admiral Hayward were very straight forward and convincing in their arguments for a large shipbuilding and aircraft procurement program for the years ahead. We will not dwell on what they have said except to supplement their proposals with some possible alternatives which should be cost-effective and of interest to this committee. NRA is convinced that actions can be taken which will give the nation more fighting capability at the same or less cost. The thrust of this argument, of course, is greater dependence on the Guard and Reserve. We will naturally be concentrating on the Naval Reserve in our testimony today.

The Congress has, over the years, been responsible for forcing the Department of Defense to address the use of Guardsmen and Reservists in planning its force mix. Oftentimes the Congress has been criticized by the services for micro-management but almost always this attention to detail by the Congress has resulted from the failure to heed or understand Congressional language by the services. It has been obvious over the past thirty-five years or so that DOD has never really made a determined effort to explore all the means available of utilizing the Guard and Reserve potential in building the wartime forces. Too often the choice is made between active or none.

President Reagan voiced his intention of building up the Reserve Forces very forcibly during his campaign, and Secretary Weinberger committed the Administration to the same goal during his confirmation hearings in the Senate last year. While we have been very pleased with the strong bipartisan effort to shore up the Defense establishment, we also believe that more thought and planning should be demanded on the Pentagon's part on where the Reserve Components can do the job and save considerable money at the same time. Maintaining a huge standing Army, Navy and Air Force is tremendously expensive and any portion of that force which can be assumed by a Reserve component is that much less of a burden for the taxpayers. Historically, the mood of the American public remains quite passive over the condition of the Armed Services until the condition reaches the extremis situation and then the cost to climb back to a safe defense posture is tremendous. How much easier it would be to keep a balanced structure in Defense if the Guard and Reserve were treated in a more even-handed way. Also, the larger the Guard and Reserve contribution, the more support is available from the citizenry.

The Naval Reserve Force is receiving a great deal of attention these days, particularly the Surface Reserve. The CNO, Admiral Hayward, said in his posture statement that the Naval Reserve had made impressive readiness improvements thanks to the persistent efforts of the Congress. Secretary Lehman spoke of the introduction of the FF-1052 *Knox*-Class Frigates, the FFG-7 *Perry*-Class Frigates, to include at least 24 Frigates, as well as updated and modern Mine Warfare and Support Craft.

NRA applauds the "new look" for the Naval Surface Reserve Force and thanks the Congress for its persistence in modernizing the surface NRF. The program is receiving top level attention in the Navy now, consequently, is has a good chance of succeeding. There are a few Congressional guidance issues not yet implemented by the Navy which will be discussed later, however, NRA believes that with support from the Navy and the Congress, a greater contribution can be made to the Total Force by the Naval Reserve. A long range plan is necessary with a migration of current assets from the active force into the Naval Reserve. This plan would enable the active force to concentrate on peacetime deployments, improvement of tactics and the development of new weapons systems. In other words, the Naval Reserve would gradually but systematically assume many of the wartime missing now in the active force.

One of the missions which the Naval Reserve dominates now is the Mine Warfare role. As the CNO stated in his Posture Statement, the Mine Warfare task was neglected during the past decade. As a result the Minesweepers now in the NRF are being decommissioned with no replacements for several years. (The low priority given missions in the Naval Reserve is a problem which needs to be overcome). The CNO has also said that the Mine Warfare mission belonged to the Naval Réserve and that the new Mine Countermeasure ships will be assigned to the Naval Reserve after a short shakedown period in the active force. It is hoped that Mine Warfare will be given a high priority in the balanced force referred to by Secretary Lehman. With the tremendous Mine-laying capability of the Soviets our seaports could be bottled up for long periods of time without Mine Countermeasure systems to clear the harbor approach and departure lanes. The Helicopter Minesweepers were scheduled into the Naval Air Reserve at one time, but the transfer was cancelled when the active force decided that it needed the equipment for the VOD (Vertical on Board Delivery) for the replenishment at sea tasks. Mine warfare is basically a wartime mission and logically belongs in the Reserve.

One of the objections to placing more hardware into the Naval Reserve was that the weapons systems were too sophisticated for Reservists. That is considered a smokescreen for the real desire of many senior Naval Officers to keep all the hardware in the active force and have a big manpower pool of reservists to draw upon when trouble comes. Suffice it to say that the Reservist is an experienced Navy veteran to start with and he becomes more skilled as he drills and performs training duty on his platform. This is one of the main reasons for supporting the Congressional guidance that the active portion of the 50 percent/50 percent active/reserve mix aboard the NRF Frigates be all TAR (Training and Administration Reserve) personnel. This enables the active crews of the ships to remain longer aboard a ship, become true experts in their jobs aboard the ship, know the Selected Reservists who will work with them, and in the final analysis, run a better ship in an abbreviated training period. NRA believes that the Navy compliance to Congressional direction in this instance is tantamount to the success of the Reserve Frigate program. USN rotation policies requiring frequent moves of personnel preclude the continuity of experience with the equipment and the Reserve program that is necessary to make it all work.

Last year, NRA commented on the tremendous number of additional personnel that would be required to man the 600-ship Navy. We stated that it was possible that one of the Battleships could be designated as an NRF ship and be assigned a reserve crew. When the Navy solicited for volunteers for the first Battleship to be returned to active service, many Reservists offered to come back on active duty and serve. Very few Reserve volunteers were accepted for duty on *New Jersey*. However, Adm. Hayward interceded and directed that qualified Reservists and Navy veterans be given priority in manning Iowa, the next Battlewagon to come on the line. NRA believes the Reservists are very willing to serve if the need is apparent and the hardware is appropriate to the task Historically, there has been very little resistance by Reservists to recalls provided there was a job to be done. On the other side of the coin there have been some very unhappy recalles when they were not used properly.

Before discussing other missions and tasks for the Naval Reserve it is emphasized that the assumption of a considerably large share of the wartime capability must be phased in—it cannot be dumped upon the Naval Reserve at one time. Although this committee is not directly involved in the numbers in the Naval Reserve as a committee, the strength is of concern to you. NRA is asking for a gradual increase in the NR strength to the wartime requirements validated by the NAMMOS (Navy Manpower Mobilization System) which has also been endorsed by the OSD. NRA believes that this goal can be reached by the end of 1986 and that it will be a quality product.

It is very important that the Congress insist on the Navy providing the most economical way of successfully fulfilling a wartime mission requirement. There has to be a continuing dialogue between Capitol Hill and the Navy to reach an agreement on how best to fill the requirements—whether by actives, reserves or a combination of the two. The Congress must also be responsive to supply the means to do the job once the decision is made, i.e. Recruiting/Retention incentives, modern hardware, appropriate benefits, etc. The benefits and incentives are particularly important as long as we retain the all-volunteer force policy. Many of these considerations become non-issues with a return to the draft.

One of the considerations which would have to be addressed when deciding where tasks should be assigned is the Navy deployment schedule. Is it necessary for the U.S. to deploy so many units to so many places for such long periods? Why can't we leave more units overseas between overhauls or yard availability periods and fly relief crews back and forth? The one-up two-back costs a lot of time and fuel oil in transiting back and forth across oceans. A modified overseas homeporting policy mentioned above would also allow sailors to spend more time stateside with their families. These thoughts are just some of the ideas which should be explored together by Congress and the Navy.

Although it is probably not within the purview of this Committee, another of the items of Congressional guidance which the Navy is having trouble accepting is the operational control of the ships by the Chief of Naval Reserve. In a separate but related matter, NRA is seeking to have legislation passed to have a Reservist appointed as the next Chief of Naval Reserve Forces. Included in the request is a provision to give the Chief Operational, Administrative, Management and Fiduciary control of his forces like those of the Chiefs of most of the other Reserve Components. NRA believes these controls are necessary to the position and supports the Congressional guidance concerning operational control of the NRF by the Chief of Naval Reserve.

MARITIME CONVOY ESCORT

The Maritime Convoy Escort role has been assigned to the Naval Reserve by mutual agreement of the Congress and the Navy. The present plan schedules a minimum of 24 Frigates FF-1052 or FFG-7 into the NRF during the next five years. The House Armed Services Committee Report on the fiscal year 1981 Defense Authorization Act explained its rationale for increasing the buy of FFG-7 Guided Missile Frigates as providing an economic building rate and making some frigates available for use by the Naval Reserve Forces.

The Congressional Budget Office has estimated that as many as 273 escorts could be needed in the North Atlantic alone to provide the protection needed for support of our deployed forces in wartime. The NATO Allies could only supply around 20 percent of that number and the Naval Reserve Force the remainder. This would mean a total of approximately 43 Escorts available now to provide Convoy protection, (34 NATO, 9 NRF), a far cry from the number needed. Several years ago the Navy plan was to have a high/low concept which emphasized low capability, but numerous and inexpensive ships mixed with modern high cost ships utilizing the latest technology. We now have a Navy policy which gives priority to procuring large, expensive surface ships and submarines that have significantly greater firepower than their smaller counterparts. Although NRA does not argue with the Navy decision to go with the high mix, it obviously leaves the Maritime Convoy Escort role with very few assets. While the high cost ships are more capable, they can only be at one location at any given point in time. This brings up point one regarding the Naval Reserve and the introduction of FFG-7s into NRF. The present plan calls for only 12 FFG-7s to be ordered in the fiscal years 1983-87, two each in fiscal years 1983, 1984 and 1985 and three each in fiscal years 1986 and 1987. These ships will replace present FFG-7s in the active force which will migrate to the Naval Reserve on a one for one basis. NRA believes that the Congress should consider increasing the buy of these ships to help alleviate the critical shortage for the wartime Convoy Escort Role and at the minimum reschedule the planned buy of 12 to procure three each in fiscal years 1983 and 1984 and two each in fiscal years 1985, 1986 and 1987.

Another possible solution for Convoy protection is the Arapaho program, a concept which places ASW Helicopters on board Merchant Ships. Arapaho is a self-contained defense force low in cost, highly flexible, and compatible with an international mix of ships. It utilizes existing assets so there is no "betting on the come" waiting for more advanced technology. The concept is capable of adapting to missions other than just convoy protection such as mine countermeasures, close air support with either Helicopter Gunships or Harriers, convoy supply support, etc.

Briefly, Arapaho is a concept which positions specialized containers aboard merchant vessels (container ships) to form a hanger, flight deck, work spaces and living accommodations for the detachment personnel. The package is designed to be completely self-sufficient. The containers are specially outfitted to fulfill the necessary functions of flight control, maintenance, firefighting, sleeping etc. They (the containers) are built according to International Standards. The containers can be loaded or unloaded from the host ships by normal available crews using standard loading/unloading equipment. The ASW helicopters could easily be Naval Reserve as could the total Arapaho mission.

NRA has endorsed and supported the "Arapaho" program for years as a possible low cost answer to ASW protection for convoys or other higher value targets transiting the sea lanes in support of our deployed forces in wartime. The program at one time, known as the Reserve Merchant Ship Defense System (RMSDS), has moved along with agonizingly slow progress since it was conceived at least ten years ago. Much of the problem can probably be attributed to low cost and therefore the low priority of the project.

The update on Arapaho by Mr. Mulquin in the February 1982 issue of the NRA NEWS was an upbeat report by an individual extremely knowledgeable and close to his subject. It is obvious by reading Mr. Mulquin's article that the Arapaho program with its tremendous potential of providing a low cost answer to a supplemental ASW coverage of the Sea Lanes, deserves a thorough testing and evaluation.

The Congress has been more than patient with the slow progress being made on the project. Most of the guidance for conducting the tests and evaluation has been Congressionally inspired and the funds have been add-ons from Capitol Hill.

Last year the CNO testified that it would take approximately $12 million over a three year period to complete the project. The British, Canadians, Australians, and Germans are very interested in the concept. The British, in fact, have taken an active part in the tests and evaluations. The Commandant of the Marine Corps has expressed an interest in testing the suitability of the platform for deploying Harriers at sea. It would appear from even a casual observation that it would be negligence on the part of our planners not to fully evaluate the Arapaho concept.

NRA believes that the test and evaluation phase of the project should be expeditiously conducted and the results tabulated to determine the feasibility of a follow-on implementation program. The tests should utilize civilian, United Kingdom and Naval Reserve assets to preclude, as much as possible, the interruption or cancellation of the active force ships' schedules.

RECOMMENDATION

It is recommended that the Navy raise the priority of the Arapaho project to expedite the objective tests and evaluations to determine the feasibility of placing the Arapaho concept into production and operation.

Further, that the Congress fund $4 million for fiscal year 1983 to continue Phase II, the tactical and operational testing of Arapaho.

In addition to the possibility of utilizing the Arapaho concept for certain aspects of Mine Warfare, NRA also recommends other possibilities be explored which can produce an "Instant Navy" in time of war at a very low cost.

Historically minesweeping, when it is required, involves large numbers of ships and boats and the efforts of thousands of men. At the peak of World War II, for example, the Allies had committeed over 200,000 men and several thousand ships to the minesweeping role.

NRA believes that there is a tremendous potential waiting to be exploited which needs to be addressed. For want of a better term let's talk to the question of the potential applicability of "craft of opportunity"—another name for trawlers, which they may as well be called henceforth—to assist in picking up at short notice the enormous burdens of minesweeping that would be required to counter a major mining campaign. Given the present portability of newly developed mine detection sonars, the increasing potential of fiberglass and other low magnetic signature materials in trawler construction, coupled with imaginative new means of physical sweeping of mines that would be in consonance with modern trawling methods, both bottom and off-bottom, it is clear that more thought needs to be devoted to the design of modern U.S. trawlers. Study effort should focus on defining needs so that at an early stage contruction may incorporate those design features in our trawlers that will facilitate their rapid conversion, in time of need, to full fledged minesweeping vessels.

This could be an ideal Naval Reserve mission and would necessarily require an agreement between the government and the crafts' owners as to the joint utilization of the craft. It would also serve to disperse the craft at the seaports on all coasts making them available for most any contingency.

SUMMARY

Mr. Chairman, the Naval Reserve Association strongly recommends that this committee take the lead in working with the Navy in transferring to the Naval Reserve as many as possible of the wartime tasks in the surface program. Obviously, it would have to be a phased-in program, but it is one which should be done as soon as possible so that the potential savings to the taxpayer can be realized as early as the budget process will allow. The American public will probably continue to support the much needed build-up in the military posture if it can see that everyone in the Legislative and Executive branches are doing their part to improve effectiveness at the lowest possible cost.

NRA is fully supportive of the extensive build-up in Naval strength to a position of Maritime Superiority once again. To do otherwise would be very dangerous to our national welfare. NRA is still concerned about the continued weakness in the Convoy Escort Role which belongs in the Naval Reserve. The assets available to conduct this vital wartime mission are woefully inadequate as are those to support Mine Warfare, another vital Naval Reserve Mission.

NRA has recommended a minor modification to the scheduled procurement of FFG-7s to speed up the transfer of active assets into the NRF and has asked the Committee to consider the procurement of additional, relatively low cost FFG-7s for the wartime Convoy Escort mission. Also, we have asked the Committee to speed up the tests on the Arapaho concept as a low cost simple, state of the art, off the shelf, possible answer to the Maritime Convoy Escort shortfall. Arapaho also has other possible uses which makes it appear to be a very flexible and attractive system in which to invest.

Also offered for the Committee's consideration were several suggestions for crew relief aboard deployed ships. Deployment requirements should be looked at to determine if there is a valid need for the continued commitment of the significant numbers of ships now in that very demanding deployment cycle.

The Naval Reserve Association looks forward to the time when the Naval Reserve will be pulling its weight as far as the fair share of the total Navy mission is concerned. The Naval Reserve community has the experience, the desire and the potential to assume a signficantly greater role in the Total Navy structure at much less cost than is presently projected. The present Navy leadership is probably amenable to working with the Congress on both long and short term modifications to the active/reserve force mix. However, policies and understandings need to be worked out to fully exploit the possible Reserve contribution to the "One Navy" concept. It will then truly be a "One Navy" effort if the balloon goes up.

Mr. Chairman, the Naval Reserve Association sincerely appreciates your strong and sometimes lonely effort to provide this nation with the Seapower it needs for survival. We look forward to your continued leadership and the opportunity to work with you in reaching our common objectives, that of regaining Maritime Superiority at the lowest possible cost and in the shortest possible time.

Mr. **Bennett**. Thank you. I want to congratulate the Naval Reserve Association, and you personally, for your presentation here today. It has been a very good one, containing a lot of concrete, specific suggestions.

Mr. Dougherty

Mr. **Dougherty**. How many escorts are there in the regular Navy today assigned to convoy duty or scheduled for convoy duty in the case of conflict?

Captain **Coleman**. I will ask Captain Bell to help me. With regard to ships assigned to convoy duty there is nothing assigned to convoy duty at this time. There is no peacetime utilization of them in that role.

Mr. **Dougherty**. I recognize that.

Captain **Coleman**. Many of the ships that could have the dual role of convoy escort are really committed to the carrier battle groups.

Mr. **Dougherty**. Does the Navy have, to your knowledge, contingency plans for the assignment of ships in the regular fleet to convoy duty in the case of conflict?

Mr. **Bell**. As far as I know, the only ones that are scheduled are the ones we mentioned from NATO and from the Naval Reserve Force.

Mr. **Dougherty**. The entire mission of convoy escort duty is that of the Naval Reserve?

Mr. **Bell**. Is in the Naval Reserve.

Mr. **Dougherty**. The regular Navy does not have——

Mr. **Bell**. The mission is a Naval Reserve mission. They have ships which could be used, but they are assigned to battle groups.

Mr. **Dougherty**. How many escorts could be mustered today?

Mr. **Bell**. Sixty-three.

Mr. **Dougherty**. Some of those would be foreign?

Mr. **Bell**. Yes, sir.

Mr. **Dougherty**. How many American?

Mr. **Bell**. Nine.

Mr. **Dougherty**. Are they fully manned with reservists?

Mr. **Bell**. Yes, sir.

Mr. **Dougherty**. Isn't it true many of our amphibious ships don't have sonar?

Captain **Coleman**. I don't know of any amphibious ships with sonar.

Mr. **Dougherty**. Even helicopter carriers?

Captain **Coleman**. I don't know of any that have that capability. They weren't designed that way.

Mr. **Dougherty**. It seems to me, Mr. Chairman, we have a real problem in that if we are looking to commit the merchant fleet and we are looking to commit amphibious ships to resupply Europe and deploy the Rapid Deployment Force somewhere around the world, and all of the regular Navy ships are committed to battle groups, and we don't have enough ships in the Reserve fleet to muster to escort the convoys, in the presence of Soviet submarines in Libya, for example, which would be a way we would have to go, I find it rather appalling that we are in that bad situation.

Captain **COLEMAN**. May I ask permission to send one more article over? It is a very well-researched article on minesweeping, which I think this committee will find very interesting. It was published in a recent edition of NRA News by Capt. Bob Smith. I think this committee will find it very useful.

Mr. **BENNETT**. Thank you very much.

[The following information was received for the record:]

MINE WARFARE—A CHANCE FOR STRENGTHENED CAPABILITY THROUGH THE NAVAL RESERVE

(By Capt. R. H. Smith, USN (Retired))

Looking at the world's two giant superpowers in relation to mine warfare, the naval strategist perceives a common vulnerability to the potential effects of mines. Yet that vulnerability derives from different causes. For the Soviet Union, the primary causes of its vulnerability lie in the obvious geographic constrictions through which its naval forces and commerce must transit. Yet that the Soviet Union recognizes that vulnerability is also equally clear. Wise in the use of naval mines, with a history of pioneering in mine development, and being the nation that created the first mine factory as far back as 1840, grave experience has etched a strong Soviet consciousness of the power in mines. Over three hundred ships are presently active and ready to carry out mine hunting and sweeping operations. Correspondingly, buttressing their offensive capabilities, virtually all the ships and planes in the Soviet arsenal are configured to lay mines and their people are trained in the necessary skills.

Though possessed of a geography seeminly more favorable to resisting the effects of a major mining campaign, the United States, for reasons very different from those with which the Soviet Union must contend, is clearly—and devastatingly—vulnerable. Even a comparatively small scale, covert mining campaign, carefully planned and well coordinated, and involving only Soviet submarines, could bar the movement of major naval and maritime traffic in and out of crucial ports. Significantly, the number of ports that would have to be mined is not large. Seventy percent of the maritime commercial tonnage of the U.S. flows through a handful of harbors and waterways. The locking in (or, equally effective, the locking out) of ships at these ports, most notably New York harbor, Delaware and Chesapeake Bays, New Orleans, and the Houston port complex would be sufficient to inflict immediate, severe military and economic distress. While the probabilities of a given event or scenario unfolding are incalculable, the extent of U.S. vulnerability—that being a state of near helplessness in terms of effectively coping—is not.

The reasons for U.S. vulnerability are numerous and complex, but they boil down to a few simple and stark facts. The U.S. Navy has only three mine sweeper (MSO's) in full and active service in the Fleet today. It has twenty-two more in the Naval Reserve Force (NFR), these latter located at various ports along the U.S. coasts and operating (in a state of diminished readiness) with a mix of roughly 45 percent regular manning and 55 percent reserves. This observation on reduced readiness does not constitute a slight on the preponderant reserve composition of their crews, but rather, even upon cursory examination, amounts to quite the opposite. Given the severely constrained, and yet simultaneously overcommitted, circumstances of the regular Navy, the role of the reserves in our mine countermeasures forces serves to emphasize their indispensability. Lacking the reserves the numbers of sweepers available to the Navy would be less than half of what exist today and, arguably, there might be no mine countermeasures capability at all. The manpower is simply not there for the regular Navy to man those ships. The state of the Navy's countermeasures capabilities would dwindle from the spartan to the ludicrous without the contribution of the reserves. And, as has happened before, when the numbers of a particular military force become too small to be meaningful, whatever remains also become logical candidates for extinction. What cannot do the job ceases to be worth the bother, and we write off the capability. This was almost the fate of the Navy's mine countermeasures forces a few years back.

Mine countermeasures necessarily have advanced a long way from World World II days. The new mine countermeasures ships—the MCM's—which are planned to replace the present MSO's are hundred million dollar-plus ships, designed to possess highly sophisticated technology for the hunting, detection, classification, precise location, neutralization and destruction of mines. Very pertinently, however, their cost virtually guarantees the paucity of their numbers. Moreover, the first of these ships will not arrive in the Fleet until the mid-nineteen eighties—probably too late to stem a further dip in the available numbers of the present aging and detriorating force of MSO's. And not to be forgotten for a moment is the fact that, while mine countermeasures today involves high technology, it still also remains powerfully a battle of numbers. For the history of mine countermeasures is the record of literally thousands of ships and small craft, trawlers and every other sort of vessel adaptable to naval tasks from former civilian purposes, all engaged in a great cooperative endeavor of tedious and repetitive sweeping of channels and harbors. These unglamorous, hard working. weather-beaten ships, in turn, have required thousands of men to serve and maintain them, as well as sizeable back-up shore and support and training organizations upon which their continual readiness has depended. Those various ships and craft have been of all types and sizes, no one of them a prefect or ideal fulfillment of capability but, in the aggregate, being myriad pieces of a tremendous and effective machinery of war that had to be created. But to mount such an effort requires a clear perception of need, and the will to invest the time, energy and resources to make a nation ready.

That warm, comforting layer of insulating time no longer exists. There is only the incompressible bone and sinew of the living body of the U.S. itself which would have to absorb, directly and suddenly, the full initial shock of the impact of a mining campaign. There is no "give" and the U.S. if it is to be able to counter a serious mine campaign, must be essentially ready, the tools at hand, whenever such a crisis should strike.

The present unreadiness of the U.S. Navy to meet such a crisis is patent. Even the layman can deduce it from a simple count of the numbers of forces available. More concretely, the truth is professionally and abundantly documented in the results of those key tests and exercises by which the Navy measures its capabilities to counter mines in its own waters. In exercises for which planning and preparation have been taking place over many months, and bringing to bear virtually the totality of U.S. mine countermeasures forces focused upon just one port, the results are still such as can only dismay. Here, consider: We are working against our own mines, and against small and known fields, and with comparatively ample time in which to train and to ready ourselves; even so, given a plethora of favorable factors which would not be ours in a real world situation, the delay in clearing the way so that ships can move again is gravely unacceptable. The zeal and dedication of the personnel involved, and the unflagging professionalism of the Navy's leadership in mine warfare—and these factors are both real and heartening—underscore the magnitude of the problem. Were multiple ports to be targeted for mining—and this would be virtually the inevitable case—the vital sea-borne commerce and naval forces of the U.S. could be blocked for months.

Given recognition of the problem—and assuming the will to solve it—where are the greatly augmented capabilities in mine warfare to come from? How can hundreds of ships and thousands of trained men be ready, and *swiftly* available, when needed? Even with a prodigality of funding, if there are not practical plans and realistic means of implementation, the prospects are for delays measured in months, or even years, before the needed buildup can take place. The new class of mine countermeasures ships, of which only a handful are presently authorized, are not due to be introduced into the fleet until 1985. And, as has been noted, so slow is their expected rate of introduction, and correspondingly so poor the material condition of many of our aging MSO's—already nearing thirty years of service life—the Navy will be hard put to avoid suffering a further dip in the numbers of our mine countermeasures ships during the eighties. There is still another factor that must be faced, an element that overshadows all calculations and—if the solution to the mine countermeasures challenge is to be sought through regular, conventional approaches—will make solution unattainable. That factor is cost, the near ruinous economics of today's Defense.

The practicalities of building up to, and maintaining, a large fleet of mine countermeasures ships, and keeping tens of thousands of trained regulars of the Navy tied up in constant dedication to mine warfare, through indefinite years of peacetime and hypothetical need, have to be very seriously weighed. Billions of dollars are involved. And perhaps, even more crucially—when we face the increasingly grim demographic projections of the 1980's—the needed resources of manpower may not be available at any cost. Athought passionate rhetoric of Defense occasionally ignores the truth, the priorities of a great nation are dynamic, constantly shifting, and economics always make for their own difficult choices and, ultimately, impose iron constraints in shaping readiness for conflict. Yet it must be a part of an enduring nation's wisdom to be able to prevail against the limitations of its resources and to find the means, in spite of many forms of adversity, to achieve those capabilities that may prove indispensable to its survival. For the U.S., a greatly strengthend mine warfare capability would appear to be one of those needed capabilities which is clearly not a luxury, nor in the category either of merely "nice to have," but which history may will judge to have been vital. In an expanded, and strengthened, role for the Naval Reserve in mine warfare, there are the outlines of a solution to what otherwise looms as an unaffordable problem. The timing and the circumstances for an increased contribution in mine warfare by the Naval Reserve appear to be irresistibly right. To the glaring need, which has been there for a long time, there is currently joined a growing revival or awareness in the potentialities, and the perils, of mine warfare.

The reasons for the excellent, virtually unique, capabilities that the Naval Reserves can bring to mine warfare are numerous and complex. They are bound up with the nature of mine warfare and the competence, training, and the pride of the Naval Reservist himself. We begin with the fact that mine warfare, for all its technological basis and special arts, is also one in which its components and sites and probable locales are numerous and widely separated. Yet in its essentially localized and segmented structure, much of mine warfare echoes the local and community-rooted nature of the Naval Reserve organization itself. Mine countermeasures for the U.S. are not to be expected, and will not have to be instituted, across the full spectrum of the seas nor ocean, nor even in most of the world's millions of square miles of inshore shallows. Rather, they will take place mostly, in defensive terms, in the harbors and channels of a comparative handful of identifiable ports and key waterways of the world. And offensive mine countermeasures will most probably occur only in the vicinity of a finite, and reasonably knowable, number of landing areas where it can be envisioned that possible amphibious assaults must be carried out.

Correspondingly, in a parallel conceptual sense, when we turn our attention to offensive mine-laying we observe that there are only a finite number of mine assembly sites. These are the locations where mines are stockpiled and readied. Here mines sit waiting, prepositioned, requiring only—upon altering notice—the personnel of the Mobile Mine Assembly Group to make them ready. But again, these sites are few, definite and fixed. Mine warfare does not roam the world randomly; instead it focuses upon particular places. It is a step-by-step kind of business too, in which planning and preparation are indispensable ingredients of readiness. It involves groups—comparatively small ones—of highly trained individuals who must be ready on very short notice to exercise predictable and methodical skills. In the twenty-seven Reserve Mine Assembly Detachments, each detachment consisting of no more than fifteen men—those located around the country and which keep themselves ready to proceed to augment the efforts of the permanent Mobile Mine Assembly Group (MOMAG) at distant designated sites—we see, in a kind of microcosm, the contributions of the Naval Reservist at his indispensable best.

Mine warfare, which is so extraordinarily distinct in nature, nevertheless partakes emphatically of one common characteristic of naval warfare: When the capabilities are needed, they are needed now. Mine warfare too has, in common along with other modern areas of warfare, undergone a spectacular rise in complexity and, with that complexity, the usual increase in difficulties in keeping people trained in special and esoteric arts. Inseparable from the implications of this fact, is the reality that mine warfare has not historically, and does not presently, offer much inducement to the regular career enlisted man or officer to become expert in this field. An occasional, and usually singular, tour in the mine forces is the lot of most regulars and, however much it turns out that they have enjoyed their tour, it is generally with relief, and the conviction that they are now rejoining the more rewarding mainstream of the Navy, that they bid their adieu to the world of mines. The result, paradoxically, is that the Reserves in the mine warfare areas are usually more experienced and skillful than the regulars. This, pertinently, is not hearsay nor folklore, but a truth attested to by the regulars, whose efforts the reserves augment to such a large degree. The regulars swiftly volunteer their praise, and can cite abundant quantitative evidence as, for example, the results of the Mine Certification Readiness Inspections (the MCRI's which all mine warfare capable units must undergo periodically) to back up their praise with hard documentation. The fact should not be surprising. The Reserves in mine warfare have usually spent much longer in the field and, because they are not being tugged in other directions by competing career ambitions, are pleased to dedicate themselves to their favored choice with undivided professionalism.

It is not possible, within the confines of a brief article, to set forth full detailed plans or blueprints for expanded Naval Reserve contributions in mine warfare. Nor is it this author's intention to embark on that presumptuous route. The many things that can be done are matters for those professionals most currently and knowledgeably involved. It has been the aim, and it is hoped the merit, of this article to stimulate thought and to suggest possible solutions. It may serve this purpose, however, to provide an example, with some accompanying rationale, whereby the Naval Reserve, properly led, supported, and guided, could make a mighty contribution that otherwise will not take place. Let's focus then on one particularly acute problem area in mine countermeasures: the protection of U.S. ports. What, in specific terms, needs to be done? And what can the Naval Reserve do?

Recall, once again, that mine countermeasures is an effort of both technology and large numbers. It is, to an extraordinary degree, a matter of organizing resources. The Naval Reserves, within the structure of what is visualized as a significantly expanded number of mine warfare detachments, could make themselves fully expert in the identification of the resources, in the setting up and the organization of the emergency mobilization plans, and in the understanding of how swiftly requisition (or comandeer) what is needed when the time comes. They would know how to configure and equip ships and craft for mine warfare in a hurry; theirs would be the detailed knowledge to support and to manage major countermeasures efforts, in the complete sense of all the capabilities required, for a certain number of designated key port areas. Reserve efforts would encompass the myriad logistic details and plans necessary to mount, within a short time, the beginnings of an adequate response to the impact of a mining campaign against the U.S. For example, for a given key port area, there could be a reserve organization which had, as one of its primary purposes, the identification, cataloguing, and current listing of all local suitable "craft of opportunity," i.e., those many kinds of wooden-hulled boats, shrimpers, crabbers, pleasure boats, offshore support boats, etc.—whatever—which could immediately, while still keeping their normal crews and operators, be made available to serve in carrying out various mine countermeasures tasks. Note that this Reserve effort would involve detailed knowledge of the necessary detection and sweeping systems, the details of where and how they would be installed, their storage and readiness while awaiting use, and the periodic drilling in the business of both making representative type craft ready and testing that readiness. It is not generally realized, for example, that there are light, portable, readily installed, and commercially available systems such as high resolution, side-scan sonars which, installed in even small and unsophisticated craft, have the potential to make immediate and large contributions to the business of locating mines.

The notion of relying upon the efforts of large numbers of a heterogenous mix of civilian small craft to serve effectively in a mighty military effort may appear at first glance rather fanciful, and even utopian. Yet, where the need is great, wonders are possible. It was a very different kind of challenge but the evacuation of the British Expeditionary Force from Dunkirk in 1940 was made possible by the nerve and desire of thousands of civilian craft streaming out from the channel ports.

This greatly expanded Naval Reserve effort in mine warfare would involve, peripheral, but also indispensable, tasks, such as identification and stockpiling of precision coastal navigation systems, deducing their best locations, and the working out of the means of their deployment, operation, maintenance, and physical security. Very pertinently, this would involve close complementary effort with the Mobile Inshore Warfare Systems—also a capability now totally resident in reserve detachments—in order to achieve their complementary objectives. It would be incumbent upon the Reserves to have complete, detailed knowledge of local ports, their waters, navigational aids, bottom conditions, local magnetic anomalies, currents, salinity variations, silting conditions and all of the other myriad factors which so critically influence the very complex business of mine countermeasures. The readiness of the Reserves would encompass bottom mapping, identification of all wrecks, minelike objects on the bottom, and full knowledge on possible options in channel "conditioning," and keeping that knowledge current. In sum, what we are saying is that upon the Reserves would fall the major burden for the creation of the organizational, operational, and logistic infrastructure upon which, when crisis came, the Navy would primarily have to depend for its mine countermeasures. The Reserves would create for themselves—stake out the territory, as it were—a broad area in which they are the authority and upon which (it can be their unique pride!) the Navy, and the nation, clearly must rely. The need is great and the challenge is clear.

Less emphasized in this article, but purely due to the limitations of space and not because of any implications of lessened importance, is the major reserve capability in mine delivery and the desirability of expanding the reserve contribution. It is well known that, despite considerable stress upon the importance of offensive mining in national strategy, that the ability to carry out offensive mining is severely circumscribed by the resources available for deploying them. In theory, these delivery resources exist, and can be earmarked for offensive minelaying. In reality, when crisis comes and explodes into conflict, the resources designated for mining are all too likely to be diverted to missions of higher priority. Thus it is that missions so vital to U.S. naval strategy as that of the Captor mine in assisting in the containment of the Soviet submarine threat, could find Captor mines still sitting useless in their stockpiles instead of deployed in the crucial waters where they can influence events. Again, it can be the reserves, and their admirably ready air squadrons, that can make the vital difference between the reality of power and merely dreams of paper.

If there is great opportunity and challenge to the Naval Reserve in mine warfare—and plainly there is—there is corresponding responsibility. It is not enough for the Naval Reserve to wave its arms with possible premature boastfulness, and to ask for ever more responsibility and resources will-nilly. It is also incumbent upon the Naval Reserve organization to do the conceptual work, the planning, the hard spadework which can assist in providing a "road map" that tells the Navy just where it ought to be heading and just how the Naval Reserve can best serve the Navy's mine warfare objectives at every step along the way. In mine warfare, that "road map" still waits to be created.

One of the key factors which will incline any observer to advocate the widest possible participation of the Naval Reserve in mine warfare—and perhaps the most important one—is the Naval Reservist's already deep involvement in mine warfare, and the particular esteem in which that participation is held by the naval commands which he serves. One cannot help but be struck by the extraordinary enthusiasm of the active duty officer towards his reserve compatriot, and the evident sincerity with which that praise is quickly volunteered. That praise is backed up with specific numbers and dates and facts, and vivid examples of excellence, e.g., the value of the effort put forth in the major annual countermeasures exercises Solid Shield, or the superior quality of the Reserve Detachments of the Mobile Mine Assembly Group. This particularly keen good will toward the reserves is an obvious asset upon which to build further.

As a concluding, and personal, note, many thanks are given for the extraordinary courtesy and demonstrable professionalism shown me by those many naval officers now serving in mine warfare. The Commander of the Mine Warfare Command, Commander Mine Squadron Twelve, and the Commander of the Mobile Mine Assembly Group, were exceedingly helpful. Their information, as well as their enthusiasm, candor, and spirit, were indispensable adjuncts to the research upon which this article is based. The tonic effect—an occasional tonic which is recommended for all who work in Washington—of seeing dedicated professionals enthusiastically working to overcome their problems, rather than surrendering to them, is always a useful corrective to the temptations of excessive pessimism which our Capital provides.

STATEMENT OF MASTER CHIEF JOHN B. THOMAS, JR., USNR (RETIRED), NATIONAL LEGISLATIVE DIRECTOR, NAVAL ENLISTED RESERVE ASSOCIATION, ACCOMPANIED BY MASTER CHIEF GUNNER'S MATE CHARLES VOLUSE, VICE PRESIDENT

Mr. THOMAS. Mr. Chairman, members of the committee, appearing with me today is Master Chief Gunner's Mate Charles R. Voluse, our vice president. I preface my formal statement with sincere appreciation on behalf of the Naval Enlisted Reserve Association and myself for the privilege afforded us today to appear before this committee.

Our purpose in appearing before this committee is to discuss the Navy and Naval Reserve Force ships. Our association strongly supports the administration's and the Secretary of the Navy's proposal to increase the Navy to 600 ships. We also support the testimony just presented by Captain Coleman of NRA.

Mr. Chairman, in fiscal year 1981 the Congress directed the Navy to take certain actions:

NO. 1 SHIP MANNING

A crew of 50 percent Active and 50 percent Selected Reserve with a phase-in of TAR personnel to replace the Active duty crews.

NO. 2 SHIP OPERATIONS

NRF escorts will operate under the direction of the Chief of Naval Reserve.

NO. 3 COMMAND STRUCTURE

Operational control of the Reserve destroyers will be shifted to the Chief of Naval Reserve.

NO. 4 HOMEPORTING

NRF ships will be based as much as possible on the drilling reservists' population and feasibility of colocating capable semiunits.

NO. 5 REPLACEMENT SHIPS

The Navy will program the transfer of newer replacement ships—FF-1052's, FFG-1's, or FFG-7's—objective of growing to a force level of not less than 24 ships. At least 4 ships will be transferred by end fiscal year 1982 and at least 12 ships in the period fiscal year 1982 to 1987.

NO. 6 FUNDING

Chief of Naval Reserve shall control funding over all Naval Reserve activity. Funding for TAR personnel shall be under RPN appropriations.

Mr. Chairman, our association believes the Navy has not expeditiously moved forward to implement the congressional direction. In the fiscal year 1982 defense appropriations report, a committee noted that the Navy had accomplished only a very small part of these actions. The committee also insisted the Navy proceed to attain a 50-percent Active—TAR—and a 50-percent Selected Reserve crew mix with a phase-in of TAR personnel to replace regular Navy crew members.

The committee also directed the Navy to submit a plan by April 1, 1982, to reach a total of 24 NRF ASW escorts during the next 5 years, with the addition of 12 more ships to be transferred to the NRF for ASW escorts. It is NERA's opinion that if the Navy continues to lag with the implementation of 12 additional ships as they have with the original ships, it is possible the ships could be outmoded by the time the Naval Reserve receives the ships.

Mr. Chairman, another area of concern is homeporting of the ships. NERA recommends that consideration be given for other ports and that a market analysis be conducted of training eligible prospects to effectively man the ships. If the current plans remain, it will be impossible to man these ships nested in four ports, namely Newport, R.I., Long Beach, Calif., Philadelphia, Pa., and San Francisco, Calif.

Command and ship operations must be assigned to the Chief of Naval Reserve, plus command of the individual escort ships should be assigned to a TAR officer who has the expertise with the training and administration of reservists.

The Naval Enlisted Reserve Association also recommends additional Naval Reserve maintenance facilities sites be established. Currently many dollars are saved by the NRMF's work on the active fleet ships.

Mr. Chairman, this completes our statement. Again, we thank you for the opportunity to appear before your committee. We will be happy to address any questions you may have or to provide any additional information to you and to your committee.

Mr. BENNETT. We deeply appreciate you and your association coming and making this presentation available. It contains constructive ideas.

Mr. Dougherty, have you any questions?

Mr. DOUGHERTY. I have no questions, Mr. Chairman.

Mr. BENNETT. Thank you very much, sir.

We will meet next Wednesday at 10 o'clock in the morning. Thank you very much.

[Whereupon, at 3:41 p.m., the subcommittee was recessed, to reconvene at 10 a.m., Wednesday, March 17, 1982.]

SHIPBUILDING AND SHIPYARDS

House of Representatives,
Committee on Armed Services,
Seapower and Strategic and
Critical Materials Subcommittee,
Washington, D.C., Wednesday, March 17, 1982.

The subcommittee met, pursuant to call, at 1:30 p.m., in room 2216, Rayburn House Office Building, Hon. Charles E. Bennett (chairman of the subcommittee) presiding.

Mr. **Bennett**. The subcommittee will come to order.

This afternoon we will continue our hearings on the fiscal year 1983 Defense authorization bill.

Our primary witness today is Vice Adm. Earl B. Fowler, Commander, Naval Sea Systems Command. Later on we will also be honored to hear from the Honorable George A. Sawyer, Assistant Secretary of the Navy for Shipbuilding and Logistics.

The shipbuilding program proposed by the Navy this year will be a major step toward the goal of the 600 ship Navy. It calls for an authorization more than twice as large as the program approved by the Congress last year and includes two nuclear-powered aircraft carriers, two Trident submarines, two SSN-688 nuclear attack submarines, and three Aegis cruisers.

These nine ships are among the largest and most complex ships of the Navy and total 74 percent of the total request. But these ships are built at only three shipyards or four, if a second source is selected for the construction of Aegis cruisers. At the same time, other shipbuilders are facing major cutbacks because of lack of Navy and commercial business. This may result in a loss of a critical portion of the shipbuilding base.

Unless something is done to take of these ships that are certainly needed and necessary if we are to achieve our goal of a strong Navy. There is also a balance that must be struck between economical peacetime construction of naval vessels and the maintenance of an industrial base for mobilization. In light of the continuing concerns about timely delivery of submarines at the Electric Boat Co. that is outlined in Admiral Fowler's prepared statement and the critical problems that face the shipbuilding industry, we must examine this allocation very carefully.

Mr. Spence.

Mr. **Spence**. Yes, Mr. Chairman, thank you.

Admiral Fowler, I want to congratulate you on what I consider a well-structured statement on Navy shipbuilding and shipyards. It contains some very useful charts and data. Other statements you have submitted so far this year are also well laid out. I think that maybe DOD witnesses would benefit from lessons learned from your personal style of presentation. That is the good news.

There are several important issues raised in your statement about which I hope you will elaborate.

We are being asked in this fiscal year 1983 budget to support two very big ticket items—the procurement of two Trident submarines and two nuclear-powered aircraft carriers. I hope you can bolster the case for each request. Although I support them, I sense that both programs will face a tough fight for survival in this Congress.

Another very important program is the development of the DDG–51 class ships. I am pleased to see that you are applying the concepts of ships systems engineering standards (SSES) to provide a variable weapons payload for the DDG–51.

It seems to me that the Navy has a golden opportunity to make a quantum jump in the useful life of combat ships by applying SSES and combat systems architecture (CSA) techniques in the shipbuilding process as soon as possible. The Navy should be mindful of past mistakes in shipbuilding which have restricted the useful life of some Navy ships from lack of foresight of the impact of future combat system developments.

I am somewhat concerned that the Navy may not be taking full advantage of pursuing variable payload ship technology. You also discuss the problems facing the private shipyard industrial base. I would like to know what measures the Navy is taking to help balance distribution of that work available for the private sector, to lessen any adverse impact on the shipbuilding industrial base?

I would appreciate your comments on the questions I have raised.

Thank you, Mr. Chairman.

Mr. BENNETT. Thank you.

Admiral Fowler, you can proceed as you wish

BIOGRAPHICAL SKETCH OF VICE ADM. EARL B. FOWLER, JR., USN

Earl B. Fowler, Jr., was born in Jacksonville, Florida, on September 29, 1925, son of Earl B. and Veva Carpenter Fowler. He enlisted in the Navy V12 program and entered Georgia School of Technology in July 1943. In February 1946, he graduated with a B.S. degree in mechanical engineering and was commissioned Ensign, U.S. Naval Reserve.

His first duty was abroad the U.S.S. *Columbia* (CL–56). Thereafter he served on the U.S.S. *Ranger* (CV–4 and the U.S.S. *Wright* (CV–49).

After graduation from Massachusetts Institute of Technology in January 1949 with a B.S. degree in electrical engineering, he was assigned to U.S.S. *Leary* (DDR-879). He then served at the Naval Shipyard, Charleston, South Carolina, and on COMINELANT staff.

Vice Admiral Fowler served at the Navy Radiological Defense Laboratory, San Francisco, and Hunter's Point Naval Shipyard. After 2 years as Material and Engineering Advisor in the Military Assistance Advisory Group, Republic of China, he served on COMSERVPAC Staff at Pearl Harbor, Hawaii.

In September 1965, he was ordered to the Pacific Missile Range, Pt. Mugu, California, as Head, Ship Engineering Division, working on the design of ships for the Apollo Program and National Range Support.

Vice Admiral Fowler came to the Naval Material Command in July 1967 as Project Manager, Instrumentation Ships Project Office, PM–5. He then became Project Manager, Oceanographic, Mine Patrol and Special Purpose Ship Acquisition Project. He attended the Harvard University Advanced Management Program during the fall of 1971.

In January 1972, he reported to the Naval Electronic Systems Command as Deputy Commander for Material Acquisition. Promoted to Rear Admiral on August 1, 1974, he served as Vice Commander until June 30, 1975, and as Commander from

August 31, 1976, to March 21, 1980. He was promoted to Vice Admiral and became Commander, Naval Sea Systems Command, on March 31, 1980.

He was awarded the Legion of Merit for meritorious services performed at the Naval Electronic Systems Command. In addition, he has the Meritorious Service Medal, the American Theater Medal, World II Victory Medal, Occupation Medal (Europe), and the National Defense Medal with star.

Vice Admiral Fowler is a member of Delta Tau Delta, Georgia Tech; Pi Tau Sigma Honorary Mechanical Engineering Fraternity; Institute of Electrical/Electronic Engineers; the American Society of Naval Engineers; and the Society of Naval Architects and Marine Engineers.

Vice Admiral Fowler and Mrs. Fowler, the former Helen Marie Jorgensen of Sioux City, Iowa, reside in Alexandria, Virginia. They have two children, Mary Helen and Joan Ann.

STATEMENT OF VICE ADM. EARL B. FOWLER, JR., USN, COMMANDER, NAVAL SEA SYSTEMS COMMAND

Admiral FOWLER. Thank you, Mr. Chairman.

Mr. Chairman, I am very pleased to be here this afternoon to report on Navy shipbuilding and shipyards. I have a prepared statement which I would like to submit for the record and then make some opening remarks, if that is permissible.

Mr. BENNETT. Without objection, that will be done.

Admiral FOWLER. Last year, I reported to you on specific problems in the submarine construction program and summarized by stating that our shipbuilding program was good with the exception of submarines. This year, I can provide you with an even more optimistic report. Our submarine shipbuilding program has improved substantially and our remaining shipbuilding programs have remained good.

During 1981, 26 ships were delivered to our Navy. This is the largest number of ships we have received in a number of years. Seven of these ships were new attack submarines. The highlight of 1981, of course, was the delivery of the first of the new *Ohio* SSBN-726-class strategic ballistic missile submarines.

Ohio was delivered on October 31, and commissioned November 13, 1981. She has demonstrated high performance in almost every parameter of her design characteristics. The strategic weapons systems performed well throughout a very rigorous test program culminating in a successful missile launch. The defensive weapon systems and sonar system met all design objectives. She is very responsive to ship control while submerged. *Ohio* is quieter than all previous submarines. The quality of life features are improved over existing submarines. *Ohio* performed as well or better than predicted.

U.S.S. *Will Rogers*, commissioned April 1, 1967 was the SSBN delivered previous to *Ohio*. Unfortunately, during the period of time from commissioning of U.S.S. *Will Rogers* to the commissioning of *Ohio*, the Soviet Navy placed into operation 70 strategic ballistic missile submarines. Nevertheless, I am optimistic about our shipbuilding program. The status of our shipbuilding program as reported to you today is the best reported by Commander, Naval Sea Systems Command in the past several years. There are no outstanding claims, and there have been none in the past 2 years previous to this.

Business relationships that resulted from the rancorous claims era, are improving. There are many positive signs indicating the traditional Navy shipbuilding industry partnership is fundamentally healthy and can and will be restored to one that benefits the Nation.

A large and complex effort like the U.S. Navy's shipbuilding program is never and probably will never be without problems. However, my report today contains no issues or problems which I consider major. The cost growths reported are minimal for a program the size of shipbuilding. Also, the slip in scheduled delivery dates are minimal. The shipbuilding industrial base is adequate, and many of our yards are moving vigorously to make improvements of facilities, processes, and productivity.

There are 86 ships under construction, 27 of these are submarines. All of the fiscal year 1981 and prior year program authorized ships have been awarded. Of the 24 ships in the fiscal year 1982 program 12 have been awarded. The two attack submarines in the fiscal year 1982 program will be awarded within the near future.

Although no submarines were delivered in 1980, more submarines were delivered to the Navy in 1981 than in any time since 1969. The quality control problems that I reported last year with Electric Boat have been resolved and continuing improvements are being made. The contentious business issues with Electric Boat have been resolved. The contracts are essentially current, thereby minimizing the potential for claims. Contract delivery dates are essentially current.

The Navy projects delivery of three additional attack submarines and one additional *Ohio* class submarine during calendar year 1982. The highlight of 1982, of course, has been delivery of two nuclear capital ships, the submarine *Atlanta* and the aircraft carrier *Vinson*, on February 26, 1982, at Newport News. The Navy submarine construction program is improved; in fact, is in the best overall condition it has been in for several years. The two companies which build submarines in the United States, Electric Boat and Newport News Shipbuilding, continue to produce quality, high performance, nuclear powered submarines.

The activation and modernization of the battleship *New Jersey* are proceeding on schedule at the Long Beach Naval Shipyard. The shipyard and my own headquarters project office took on this difficult assignment with minimal advanced planning. They are doing an excellent job and we have every expectation that the commitments will be met. The service life extension of the U.S.S. *Saratoga* at the Philadelphia Naval Shipyard is proceeding very well. The ship arrived in the yard and started work on October 1, 1980, and it will complete on schedule in February 1983.

We have asked the Congress this year to reverse a decision of several years ago and return ship design funding to the Shipbuilding and Conversion Navy account. I believe this will provide the Navy with a better and easier means of managing ship design and of controlling design funds. It will also provide the Congress with a better and more coordinated oversight of ship design and ship construction.

We are asking that the shipbuilding appropriation be made available for 7 years in lieu of 5 years. This is consistent with our experience and with recommendations made by the General Accounting Office to the Congress. Most importantly, it would eliminate unnecessary paperwork and sometimes expensive or frustrating delays in funding.

I mentioned earlier that the shipbuilding industrial base has the capability to execute the Navy shipbuilding program. I want to emphasize again that over the last year I have looked very hard at the requirements placed on the industry by the fiscal year 1983 5-year shipbuilding program. The projected increases in the requirements for facilities and manpower over the 5-year plan are at rates which can be managed. The current near term downward trends in employment levels in some shipyards are troublesome, so we are moving as vigorously as possible to put fiscal year 1982 contracts in place and to be ready to award fiscal year 1983 contracts as soon as congressional authorization and appropriation actions have been taken and we have authority to proceed.

The largest innovation and perhaps the most important item in the 5-year shipbuilding program is the new approach to the CVN construction, which could save the taxpayers $750 million for these two new ships. The important action by the Congress is to make a full and unqualified commitment backed up with funding authorizations and appropriations to build these two new carriers.

I realize it is your responsibility to provide and maintain a Navy. Should you make the determination that more carriers are needed, then this break with the one at a time approach of the past is most strongly recommended so that we can be the good stewards that the taxpayers expect of us. No matter what the savings realized are by this approach, they will be substantial, and should be vigorously pursued by the Congress, the Navy and Newport News shipbuilding.

We are moving to select a second yard for constructing the CG-47 *Ticonderoga* class cruiser and it may be necessary to take a similar step for other classes in the future. There are important new ships such as the guided missile destroyer, DDG-51, and the amphibious assault ship, LHD-1, in our program. We have learned a lot over the last two decades about the design and construction of new warships. We are making a strong effort within the Navy to take advantage of lessons learned and insure that these ships benefit from the best the Navy and industry has to offer. Ship design and construction are best done by a strong partnership between the Navy and industry.

Our 5-year program also includes the refurbishment and modernization of two important classes of capital ships, the battleships and the carriers. I do not hear the skeptics on these programs anymore. When measured by the old cliche "bang for the buck," these programs look pretty good. There are a number of ship conversions included in the 5-year plan which will take some old but useful ships previously used in merchant service and convert them to military use. These have been structured to gain the most for the taxpayers money.

In conclusion, Mr. Chairman, I rate the U.S. Navy shipbuilding program as good. I am optimistic that the U.S. Navy can execute the 5-year defense program if authorized and appropriated by the Congress. I am confident that the industry is capable of executing this program. There is a new sense of partnership and cooperation between the Navy and industry. We are not without our problems and never will be, but good solid business practices are in place, and the key officials in the Navy and in industry are working constructively to make improvements.

Mr. Chairman, the Chief of Naval Operations reported to the Congress this year with great pride that we are a Navy "on the move with a full head of steam." We are a Navy with confidence. We are a Navy determined to be the finest professional force at sea today and in the future. I can tell you, Mr. Chairman, with equal pride and confidence that within the more than 100,000 military and civilian personnel assigned to me, we have the finest designers and builders and maintainers of ships in any organization anywhere in the world.

We build most of the combat ships and shipboard weapons under free world control on the seas today. We are determined to design and build the finest ships our Navy can afford. We are fully capable of building the Navy we need to restore maritime superiority to the United States of America.

I have now completed my opening comments and if you like, will answer your questions, Mr. Chairman.

WRITTEN STATEMENT OF VICE ADM. EARL B. FOWLER, JR.

SHIPBUILDING AND SHIPYARDS

Mr. Chairman and Members of the Committee. I am Vice Admiral Earl B. Fowler, Commander, Naval Sea Systems Command.

It is a pleasure to appear before you today to discuss shipbuilding.

I have included some charts in my presentation to make the information which I plan to present easier to understand. If you desire, Mr. Chairman, following my statement I will respond to any questions you may have.

SHIPBUILDING AND SHIPYARDS

- **STATUS REPORT OF THE CURRENT PROGRAM**
  - **—SCHEDULE**
  - **—SUBMARINES, BATTLESHIPS AND AIRCRAFT CARRIER SERVICE LIFE EXTENSION PROGRAM**
  - **—FINANCIAL DEVELOPMENTS**
- **FY 1983 FIVE YEAR SHIPBUILDING PROGRAM**
- **RESOURCES AVAILABLE TO PERFORM WORK IN PRIVATE AND PUBLIC SHIPYARDS**
- **SUMMARY**

CHART 1

Chart 1 contains an outline of the specific areas I will cover. I will present the status of the current shipbuilding program with some specific emphasis on several individual programs. I will cover the projected shipbuilding plan and the resources available to perform shipbuilding in public and private yards, including the industry workload forecast.

STATUS REPORT OF THE CURRENT PROGRAM

NEW SHIPS UNDER CONSTRUCTION AS OF 1 MARCH 1982

SHIPTYPE	QTY	SHIPYARD
AIRCRAFT CARRIER (CVN)	1	NEWPORT NEWS
GUIDED MISSILE CRUISER (AEGIS)(CG)	6	INGALLS
DESTROYER (DD)	1	INGALLS
LANDING SHIP DOCK (LSD)	1	LOCKHEED
GUIDED MISSILE FRIGATE (FFG)	28	BATH, TODD LA & TODD SEATTLE

GUIDED MISSILE PATROL COMBATANT (HYDROFOIL) (PHM)	3	BOEING MARINE
DESTROYER TENDER (AD)	1	NATIONAL STEEL
FLEET OILER (AO)	2	AVONDALE
CABLE REPAIR SHIP (T-ARC)	1	NATIONAL STEEL
SALVAGE SHIP (ARS)	3	PETERSON
OCEAN SURVEILLANCE (T-AGOS)	12	TACOMA BOAT
FLEET BALLISTIC MISSILE SUBMARINE (OHIO CLASS)	8	ELECTRIC BOAT
ATTACK SUBMARINE (LOS ANGELES CLASS)	19	ELECTRIC BOAT/ NEWPORT NEWS
TOTAL SHIPS UNDER CONSTRUCTION	86	

CHART 2

Schedule

As of 1 March 1982, the Navy had under construction in private yards a total of 86 ships. Chart 2 indicates ships, quantities, and the yards in which they are being built.

Chart 3 shows the ships under construction in private yards and their current, Navy estimated, delivery status as compared to the delivery assessments made when I appeared before you last March. Nine are earlier, 22 are later, and 55 ship deliveries are either unchanged from our projections of last year or are newly awarded ships.

For those ships which have deliveries projected later, the reasons are varied. The delivery date of one of the PHMs has been delayed pending correction of technical deficiencies. In the case of the Destroyer Tender (AD-44), a labor strike at the builder's yard has caused a 3-month delay. The events which delayed earlier oilers and delayed deliveries of vendor-supplied subassemblies have delayed the Fleet Oilers AO-180 and -186 for 4 to 5 months. The effects of litigation and a labor strike were responsible for the 9-month delay of the Cable Repair Ship (TARC-7). Eight Ocean Surveillance Ships (T-AGOS) have been delayed 1 to 2 months due to changes in the production configurations of the sonar and design improvements in the machinery control and propulsion systems.

The delays in delivery of new construction ships due to strikes, late material deliveries, and technical or business issues continue to be troublesome and are receiving close attention, but these do not represent significant delays in any of our surface ship construction programs which portend major or general industry problems.

A contract modification was executed in December 1981 to provide for a special incentive for early delivery of the CVN 71. The provision was developed in order to encourage the contractor to deliver the ship early by permitting him to share a portion of the cost savings due to early delivery. The incentive target delivery date for the ship was established as 31 December 1986. If achieved, the

COMPARATIVE DELIVERY ASSESSMENT FOR SHIPS CURRENTLY UNDER CONSTRUCTION 1 MARCH 1982 VS. 1 MARCH 1981

QTY	SHIP CLASS	EARLIER	LATER	NO CHANGE
1	AIRCRAFT CARRIER (CVN)	1		
6	GUIDED MISSILE CRUISER (AEGIS) (CG)			6
1	DESTROYER (DD)			1
1	LANDING SHIP DOCK (LSD)			1
28	GUIDED MISSILE FRIGATE (FFG)			28
3	GUIDED MISSILE PATROL COMBATANT (HYDROFOIL) (PHM)		1	2
1	DESTROYER TENDER (AD)		1	
2	FLEET OILER (AO)		2	
1	CABLE REPAIR SHIP (T-ARC)		1	
3	SALVAGE SHIP (ARS)			3
12	OCEAN SURVEILLANCE (T-AGOS)		8	4
8	FLEET BALLISTIC MISSILE SUBMARINE (OHIO CLASS)	2	5	1
19	ATTACK SUBMARINE (LOS ANGELES CLASS)	6	4	9
86	TOTAL	9	22	55

CHART 3

contractor will be paid a special incentive of $21.2 million, and the Navy will receive the ship 14 months earlier than the contract delivery date. The major benefits of early delivery of the CVN 71 are reduced costs to the Government, early availability of the ship, and earlier construction of follow ships. The Newport News Shipbuilding and Dry Dock Company delivered USS ATLANTA (SSN 712) and USS CARL VINSON (CVN 70) on Friday, February 26, 1982. This is the first time two nuclear combatants have been delivered on the same day. USS CARL VINSON was delivered 32 days earlier than the contract delivery date.

Other submarine deliveries will be addressed later in the statement during my status report of the submarine construction program.

Ship Deliveries

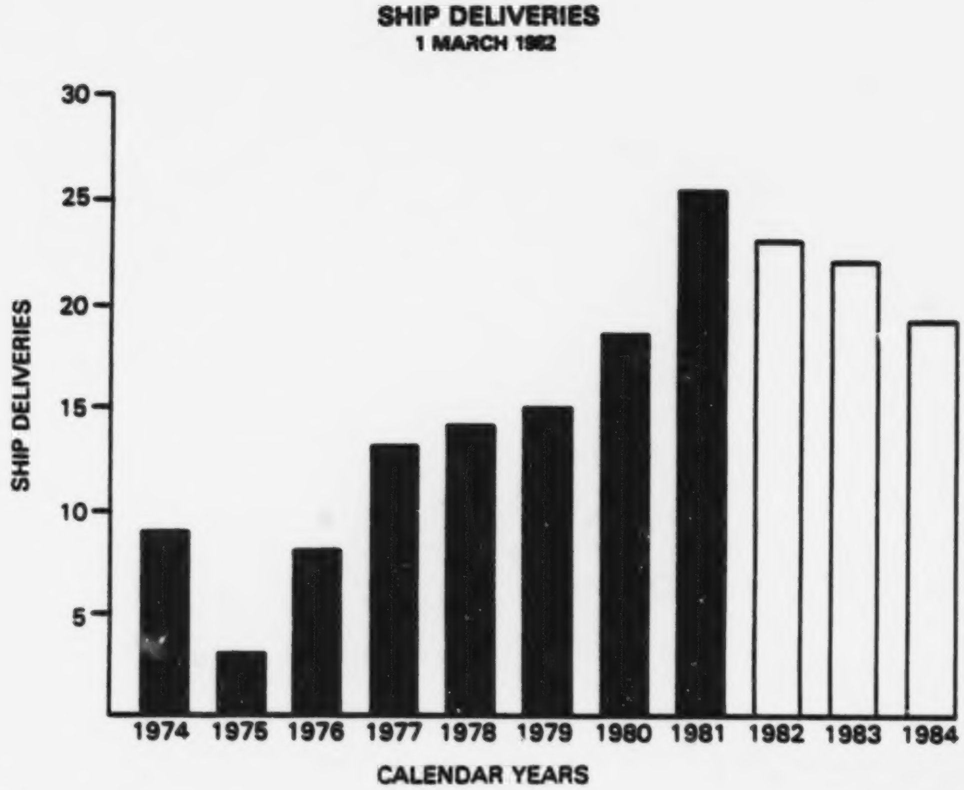


CHART 4

Chart 4 shows the number of ship deliveries to the Navy each year since 1974. During 1981, 26 ships were delivered to the Navy. We anticipate delivery of 23 ships in 1982. This chart does not reflect any of the ships appropriated in FY 1982, any of the 25 ships requested in the FY 1983 budget request, or any of the ships in the President's Five Year Shipbuilding program, since none of these ships will deliver prior to 1985.

All ships in the FY 1981 and prior year programs have been awarded, and, with one exception, we expect to award all FY 1982 ships prior to the end of the fiscal year. That exception, a Fleet Oiler, will be awarded in January 1983 with the FY 1983 requested ship. This combination should significantly enhance competition for the contract.

SUBMARINE CONSTRUCTION PROGRAM

Now I would like to discuss the Navy's submarine program in more detail.

The Navy's submarine shipbuilding program consists of the construction of two classes of nuclear submarines: the LOS ANGELES (SSN 688) Class high-speed attack submarines under construction at both Electric Boat and Newport News Shipbuilding and Drydock Company, and the OHIO (SSBN 726) Class ballistic missile submarines under construction at Electric Boat. An overview of these two programs is provided in Chart 5.

During calendar year 1981, Electric Boat made progress in resolving its submarine construction problems, reducing the new construction backlog, and delivering seven nuclear submarines - six LOS ANGELES Class submarines and the lead OHIO Class submarine, USS OHIO (SSBN 726). Newport News delivered one LOS ANGELES Class submarine during 1981 and another on 26 February 1982. In 1982 we expect Electric Boat to deliver three submarines (two SSNs and one SSBN) and Newport News to deliver two SSNs (one already delivered).

OHIO AND LOS ANGELES CLASS SUBMARINE PROGRAMS

PROGRAM YEAR	70	71	72	73	74	75	76	77	78	79	80	81	82	83
OHIO CLASS														
AUTHORIZED	—	—	—	—	1	2	1	1	2	0	1	1	0	2*
TOTAL	—	—	—	—	1	3	4	5	7	7	8	9	9	
AWARDED (EBDIV)	—	—	—	—	1	2	1	1	2	0	1	1	0	
TOTAL	—	—	—	—	1	3	4	5	7	7	8	9	9	
DELIVERED**	—	—	—	—	—	—	—	—	—	—	—	1	1***	
TOTAL	—	—	—	—	—	—	—	—	—	—	—	1	2	
LOS ANGELES CLASS														
AUTHORIZED	3	4	5	6	5	3	2	3	1	1	2	2	2	2*
TOTAL	3	7	12	18	23	26	28	31	32	33	35	37	39	
AWARDED														
EBDIV	1	2	4	6	5	0	0	0	1	1	0	1	TBD	
SUBTOTAL	1	3	7	13	18	18	18	18	19	20	20	21		
NNS	2	2	1	0	0	3	2	3	0	0	2	1	TBD	
SUBTOTAL	2	4	5	5	5	8	10	13	13	13	15	16		
TOTAL	3	7	12	18	23	26	28	31	32	33	35	37		
DELIVERED**														
EBDIV	—	—	—	—	—	—	—	1	2	2	0	6	2***	
SUBTOTAL	—	—	—	——	—	—	—	1	3	5	5	11	13	
NNS	—	—	—	—	—	—	1	2	2	0	0	1	2****	
SUBTOTAL	—	—	—	—	—	—	1	3	5	5	5	6	8	
TOTAL	—	—	—	—	—	—	1	4	8	10	10	17	21	

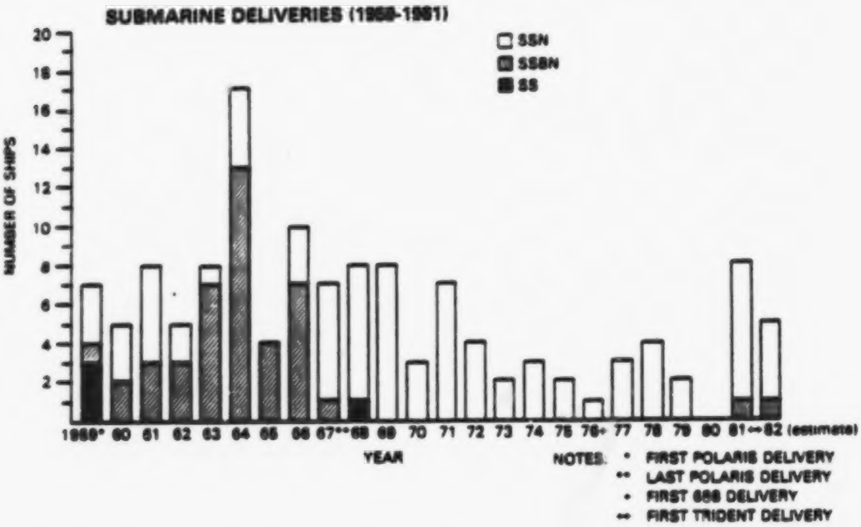
* BUDGET REQUEST

** CALENDAR YEAR OF DELIVERY

*** SCHEDULED

**** ONE DELIVERED, ONE SCHEDULED

CHART 5



For comparison purposes, Chart 6 shows the delivery rate of submarines from 1959, the year of the first Polaris submarine delivery, through calendar year 1981, when a total of eight submarines were delivered by the two remaining new construction submarine yards. Projected calendar year 1982 deliveries are also shown.

SUBMARINE CONSTRUCTION STATUS

Electric Boat

OHIO (SSBN 726) Class

In August 1981 contract modifications were executed which established new contract delivery dates (Chart 7 compares these dates with the dates I provided in my testimony last year); contained a broad contract release of claims which covers substantially all events prior to 28 July 1981, including potential insurance reimbursement requests similar to the request submitted on the LOS ANGELES Class submarine program; and resolved the backlog of unadjudicated changes.

Based upon these revised delivery dates, the Navy revised the end cost estimate for these ships. The FY 1983 Cost Growth and Escalation budget includes $223.6 million ($91.3 million Cost Growth and $132.3 million Escalation) to partially fund the above increase.

On January 7, 1982, Electric Boat was awarded a contract for the ninth OHIO Class submarine (SSBN 734). The contract also contains fully priced options for two additional OHIO Class submarines.

Original and current contract delivery dates, as well as March 1981 estimated delivery dates for the OHIO Class submarines, are shown in Chart 7. The Navy estimates that the next two ships to deliver (SSBN 727 and 728) can be delivered on contract dates. However, assuming Electric Boat maintains current workforce and applies manpower as necessary to deliver LOS ANGELES Class ships on schedule, unless strong measures are taken by Electric Boat management, it is doubtful that later OHIO Class submarines will be delivered to the contract schedules.

OHIO CLASS DELIVERY SCHEDULE

SHIP	ORIGINAL CONTRACT DEL DATES	MAR 81 NAVY EST	CURRENT CONTRACT DEL DATES
SSBN 726	APR 79	DEC 81	OCT 81*
SSBN 727	APR 80	DEC 82	SEP 82
SSBN 728	DEC 80	SEP 83	JUN 83
SSBN 729	AUG 81	MAY 84	FEB 84
SSBN 730	APR 82	JAN 85	OCT 84
SSBN 731	DEC 82	SEP 85	JUN 85
SSBN 732	AUG 83	MAY 86	FEB 86
SSBN 733	MAY 86	JAN 87	OCT 86
SSBN 734	DEC 87	—	DEC 87

*ACTUAL DELIVERY DATE

CHART 7

LOS ANGELES Class

In April and again in July 1981, Electric Boat rescheduled delivery dates for SSNs 704-710 and SSNs 719-720. The P.L.85-804 and original contract delivery dates and current contract dates are shown in Chart 8. The Navy estimates that the increased construction periods of the LOS ANGELES Class submarines will increase the cost of these nine submarines by approximately $5 million in additional escalation, which can be funded from within the current program budget. Any other increased costs incurred due to the extended building periods are the responsibility of Electric Boat since the cost of these ships was already projected to reach the ceiling price of the contracts. The current LOS ANGELES Class budget will fund these submarines to ceiling price.

On 11 February 1982, the Navy executed a Fixed Price Incentive contract with Electric Boat Division for the construction of one LOS ANGELES Class submarine (SSN 724) with options for three additional submarines. The contract terms and conditions are essentially the same, including insurance provisions, as those in a recent LOS ANGELES Class submarine contract with Newport News Shipbuilding and Dry Dock Company and the recent OHIO Class submarine contract with Electric Boat Division.

LOS ANGELES CLASS DELIVERY SCHEDULE

SHIP	P.L.85-804 JUN 78 DEL DATE	ORIGINAL CONTRACT DEL DATE	CURRENT CONTRACT DEL DATE
SSN 704	FEB 82	—	JUN 82
SSN 705	JUN 82	—	DEC 82
SSN 706	OCT 82	—	MAY 83
SSN 707	JAN 83	—	OCT 83
SSN 708	SEP 83	—	MAR 84
SSN 709	JAN 84	—	SEP 84
SSN 710	MAY 84	—	FEB 85
SSN 719	—	AUG 84	JUN 85
SSN 720	—	MAR 85	NOV 85
SSN 724	—	JAN 87	—

CHART 8

Schedules

During the 1970s, several unsuccessful attempts were made to validate Electric Boat's Management System to the DOD Cost/Schedule Control Systems Criteria. In early 1980 the Navy accepted Electric Boat's newly installed cost/schedule control system as meeting the criteria requirements and possessing the capability to provide reliable data. Experience has shown, however, that the data used by Electric Boat is subject to frequent baseline changes which impact the Navy's ability to reconcile cost and schedule information and to accurately evaluate contractor performance. Subsequent to initial validation, the company has been notified that they are no longer in full compliance with both the Government criteria and their own system requirements.

In the 8-month period ending January 1982, Electric Boat reported man-hour expenditures on OHIO Class submarines which exceeded planned labor hours by an average of 14 percent while reporting actual progress which fell short of plan by an an average of 21 percent. The uncertainty surrounding Electric Boat's manpower management actions has made the Navy's assessment of projected delivery dates less accurate and has been a factor in relations with Electric Boat.

The Navy estimates of delivery dates provided in Congressional testimony in March 1981 necessarily were based, not on plans provided by the contractor, but on the assumption that appropriate manpower actions would be taken by Electric Boat. Within days after the Navy testimony which projected delays in deliveries, Electric Boat revised its estimate of delivery dates. No corresponding manpower projections were provided by the contractor until June 1981. In April 1981 the Special Committee to the Secretary of the Navy reviewed the overall situation at Electric Boat and assessed the contractor's schedules based on two assumed manning levels - workforce existing at that time, and a workforce increased by approximately 1,000 trades personnel. Despite the intense interest and concern about the contractor's ability to achieve the scheduled deliveries beyond 1981, Electric Boat has not presented a current manpower management plan. Although the Navy and Special Committee made assumptions of maintaining or increasing the workforce, the contractor reduced the workforce. As a result, the average monthly total direct labor man-hours expended on all submarines at Electric Boat dropped about 20 percent from the first quarter to the last quarter of calendar year 1981. Thus the basic premises of the early 1981 schedule assessments have changed. The Navy's assessment, assuming Electric Boat will maintain the current workforce and will apply manpower as necessary to maintain the current LOS ANGELES delivery schedule, projects delays in some OHIO Class submarines beyond the contract delivery.

If, however, strong measures are taken by General Dynamics management, it may be possible for Electric Boat to meet or exceed current contract delivery dates. The Navy has, in fact, initiated discussions with Electric Boat to determine the feasibility of improving existing contract delivery dates, and contract incentives that might be reasonable in this regard.

Increased manpower is not the sole answer. Productivity, costs, manning, and an ability to perform to plan are all interrelated and represent the fundamental issues with which the General Dynamics management must come to grips. Until the fundamental issue of productivity is vigorously addressed, the risk of future Navy-Electric Boat problems recurring as in the past continues to exist.

Quality Assurance Issues

In 1979 and 1980, Electric Boat experienced a number of quality control problems that contributed to the delays in the delivery of both OHIO and LOS ANGELES Class submarines. These problems were discussed before this committee last year. Corrective action on the non-conforming steel and painting problems has been completed. Electric Boat also corrected welding deficiencies on the seven submarines delivered last year and has a corrective action program for affected submarines still under construction. Electric Boat has developed a revised Quality Program Management Plan which has been approved by the Navy and incorporated into the contracts for the eighth and ninth OHIO Class submarines as well as the SSN 724 contract. This revised Quality Program Management Plan will also be incorporated into future OHIO Class and LOS ANGELES Class submarine contracts.

In December 1981, the Navy completed an OHIO and LOS ANGELES pre-award quality assurance audit at Electric Boat. The audit confirmed improvements in the Electric Boat Quality Assurance Program since the last audit. Additionally, the Navy has added quality assurance specialists to the Supervisor of Shipbuilding's staff to provide increased monitoring, on a continuing basis, of the Electric Boat quality assurance program. Trial results for the seven submarines delivered in 1981 by Electric Boat were excellent as substantiated by the Board of Inspection and Survey.

The lead ship of the OHIO Class, USS OHIO (SSBN 726) has demonstrated high performance in almost every area with respect to design characteristics. The strategic weapons system performed well throughout a very rigorous test program, culminating in a successful missile launch. The defensive weapons system and sonar suite met all design objectives. In characteristics and parameters which are of particular significance to submariners, USS OHIO is an excellent submarine. In terms of submerged ship control, USS OHIO is very responsive. The low airborne noise level within the ship is noteworthy. In terms of quality of life, the habitability features are a significant improvement over existing submarines. In summary, the ship performs as well or better than predicted by design studies.

Insurance and Other Contractual Issues

On 17 June 1981, the Department of the Navy received an insurance reimbursement request from Electric Boat Division of General Dynamics Corporation of $18.9 million for defective welding. The request concerned defective welding performed by Electric Boat employees on the USS BREMERTON (SSN 698). Electric Boat sought to recover the costs for what the company described as "consequences of faulty workmanship" by their own employees in connection with structural welding. The amount requested by Electric Boat included "indirect costs of delay and disruption" resulting from correcting faulty workmanship and a 47-week extension of the delivery schedule of BREMERTON to cover the period during which corrections were made. In addition, $2 million of the requested amount was profit.

Immediately upon the receipt of the request from Electric Boat, I assigned a team of lawyers and technical experts to review the request. A final decision of the Contracting Officer was issued on 16 October 1981, which denied the insurance reimbursement request. As stated in the final decision, the contractor was seeking reimbursement for the increased costs of basic contract work performed out of sequence due to the fault of Electric Boat personnel. The Contracting Officer found that insurance coverage provided by the Navy does not apply in the situation as presented by Electric Boat. Further, it was determined that the elements necessary to recover under the insurance clause and the aforementioned policy were not established by the contractor.

On 21 October 1981, a Memorandum of Agreement, effective for 180 days, was executed between the Navy and Electric Boat, under which Electric Boat withdrew its request and the Navy placed the final decision of the Contracting Officer in suspension.

LOS ANGELES Class contract modifications were executed on 11 February 1982 which resolved substantially all outstanding issues between the Navy and Electric Boat through 15 January 1982, including a large number of unadjudicated changes. The modifications included new contract delivery dates, which in the case of undelivered ships are the same as the July 1981 dates shown in Chart 8. Although the delays were caused by a variety of events, the modifications did not assign responsibility for the delays. The contractor agreed that, with respect to the LOS ANGELES Class program, it would not submit any insurance reimbursement requests, requests for equitable adjustment, or claims related to defective welding, defective steel or defective paint, and withdrew permanently the insurance reimbursement request submitted for the USS BREMERTON. Further, Electric Boat agreed to a broad contract release which helps to keep the LOS ANGELES Class program current and to avoid the potential for future claims.

On 22 August 1981, modifications of a similar nature were executed to the OHIO Class submarine contracts. On the basis of these modifications, both the LOS ANGELES and OHIO Class submarine contracts are essentially up-to-date.

The business relationship with Electric Boat has been improved substantially with these recent contract modifications and the award of the latest OHIO Class and LOS ANGELES Class submarine contracts. We have obtained a mutually beneficial release from claims; the insurance reimbursement requests which were such a matter of controversy have been withdrawn and all but minor changes have been settled. This means that all contracts are essentially current. We are in the best business condition with Electric Boat today that we have been in since the day we signed the first of the current contracts.

Newport News Shipbuilding

Newport News currently has 10 LOS ANGELES Class submarines under contract.

NEWPORT NEWS SHIPBUILDING

LOS ANGELES CLASS DELIVERY SCHEDULE

SHIP	ORIGINAL CONTRACT DEL DATE	CURRENT NNS DATE
SSN 713	FEB 82	AUG 82
SSN 714	SEP 82	APR 83
SSN 715	MAR 83	SEP 83
SSN 716	SEP 83	FEB 84
SSN 717	MAR 84	JUN 84
SSN 718	SEP 84	OCT 84
SSN 721	DEC 86	MAR 86
SSN 722	JUN 87	SEP 86
SSN 723	DEC 87	MAR 87

CHART 9

Seven of these submarines experienced delays of from 2 weeks to 8 months as shown in Chart 9. These delays are attributable to late erection of hull units, late placement of purchase orders, defective turbines provided by the Government, defective contractor furnished material, inadequate application of manpower, and late delivery of piping assemblies. The SSNs 712-718 were also delayed due to the United Steelworkers of America strike that occurred January through April 1979.

Award of Three LOS ANGELES Class Submarines to Newport News

Based on the determination that the award of three of the four FY 1980/1981 LOS ANGELES Class submarines to Newport News was necessary to retain that contractor as a viable supplier of nuclear attack submarines in the event of a national emergency, a contract was awarded to Newport News on August 13, 1981, for the construction of these submarines.

Schedule

In January of this year, Newport News advised the Navy that SSNs 716 through 718 would be delayed 2 months, 3 months, and 2 weeks respectively, and that SSNs 721, 722, and 723 would each deliver 9 months earlier than the contract delivery dates.

Summary

In summary, the submarine construction program is proceeding in much better fashion now than when I appeared before this committee last year. Seven attack submarines and the USS OHIO (SSBN 726) were delivered during calendar year 1981. USS ATLANTA (SSN 712) was delivered February 26, 1982. The Navy projects delivery of an additional three attack submarines and one additional OHIO Class during calendar year 1982. The LOS ANGELES program at Newport News is progressing satisfactorily. There is concern about Electric Boat's capability to meet current delivery schedules on out-year OHIO Class deliveries but the contentious business issues with Electric Boat have been resolved. The insurance issue is behind us finally. The contracts are essentially current, thereby minimizing the potential for claims. Contract delivery dates are essentially current with estimated delivery dates. Quality issues are essentially resolved. The Navy's submarine construction program is improved, in fact is in the best overall condition it has been in for several years, and the two companies which build submarines in the United States, Electric Boat and Newport News Shipbuilding, continue to produce quality, high performance, nuclear-powered submarines. In this vein, it is noteworthy that USS OHIO (SSBN 726), lead ship of the class, met or exceeded initial class design goals. Submarine construction, like surface ship construction, is well managed and under control.

BATTLESHIP REACTIVATION PROGRAM

USS NEW JERSEY (BB-62)

The battleship NEW JERSEY is scheduled to complete the industrial period for reactivation and modernization at the Long Beach Naval Shipyard by the end of this year. NEW JERSEY will then have 2 months of fitting out in preparation for several months of test, training, certifications, and shakedown. A brief industrial period will then be accomplished to correct any deficiencies which arise during the shakedown period.

Current Shipyard Progress

NEW JERSEY was towed to the Long Beach Naval Shipyard in August of 1981. Preparation for Navy distillate fuel conversion and ripout work began almost immediately. Prior to being drydocked in November, systems testing began, including operation of one of the eight boilers for testing of auxiliary machinery. Through January, 60 percent of the Government furnished equipment has been delivered and 25 percent of the total industrial labor has been accomplished.

Modernization Configuration

With the completion of the industrial period at Long Beach, NEW JERSEY will retain all nine of her 16-inch guns and six of her original ten 5-inch gun mounts. During the modernization, we will increase the ship's firepower with the addition of 16 HARPOON Anti-Ship Missiles, 32 TOMAHAWK Cruise Missiles, and 4 PHALANX Close-In Weapons systems. We are also updating the capability of air and surface search radars, electronics warfare, radar and torpedo countermeasures, and communications. NEW JERSEY's ability to survive battle damage is a major consideration in modernization design as is the protection of equipment and systems. Pollution abatement and upgraded habitability standards are also included in the modernization.

Technology and Expected Service Life

The propulsion plants, machinery, and weapons and equipment will be supportable through the 1990s. The general condition of the hull structure and the long-term outlook for NEW JERSEY's performance at sea are excellant.

Crew Manning Status

The initial increments of ship's force have arrived at Long Beach. The balance of the crew will arrive by July. The crew is scheduled to move onboard in October.

Funding

Advance Procurement, in the amount of $89 million, was appropriated in FY 1981. In addition, $237 million was appropriated in FY 1982, for a total of $326 million in Shipbuilding and Conversion, Navy for NEW JERSEY, exclusive of Outfitting and Post Delivery costs. The schedule and cost goals set for NEW JERSEY are demanding. Progress to date has been excellent and it is expected that the Navy can meet all other goals. I am very proud of NAVSEA's capability, supported by other Navy elements and industry as demonstrated on NEW JERSEY.

USS IOWA (BB-61)

The industrial effort for the reactivation and modernization of the battleship IOWA is planned for a 24-month period, in a private shipyard, beginning in late 1982. Installation drawings produced by Long Beach Naval Shipyard for NEW JERSEY are being reviewed and modified or supplemented as required for use on IOWA. This process will be completed in September. In FY 1982 $88 million was appropriated for long lead funding for the IOWA. The IOWA advance planning contract will be made in July of this year. This contract will contain an option for reactivation and modernization of the IOWA which will be executed in January 1983.

Material Condition and Configuration

Extensive physical inspection and design shipcheck on IOWA was conducted in November. The material condition of IOWA was reported as being similar to that of NEW JERSEY prior to NEW JERSEY's previous activation. IOWA's configuration is quite similar to that of NEW JERSEY so that only moderate rework of the NEW JERSEY modernization installation design is required.

Shipyards

The Navy plans to accomplish the IOWA reactivation at a private East Coast or Gulf Coast shipyard. Several private East Coast and Gulf Coast shipyards have expressed an interest in accomplishing the IOWA reactivation and modernization industrial effort. Suitable drydock and sufficient manpower capability are key aspects to accomplishing the work.

AIRCRAFT CARRIER (CV) SHIP LIFE EXTENSION PROGRAM

The CV Service Life Extension Program was approved by the Chief of Naval Operations in March of 1976. The objective of the Program is to provide those alteration and repairs required to extend the life of selected aircraft carriers from a nominal 30 years to 45 years. Fleet modernization improvements will be limited to those which the ship would receive through the normal overhaul and repair cycle process. Nine aircraft carriers are involved. The basic schedule calls for a 28-month industrial availability with a 1-month overlap.

USS SARATOGA (CV-60)

Background

The SARATOGA is scheduled to complete the SLEP industrial period at the Philadelphia Naval Shipyard in February of 1983. After several months of test, training, certification and shakedown, the ship will undergo a brief industrial availability to correct any deficiencies which arise during the shakedown period.

Status

The Service Life Extension Program on the SARATOGA has been in progress in Philadelphia since 1980. Industrial progress to date fully supports completion on schedule and indicates that the Service Life Extension Program is a sound program. The ship's crew is moving onboard in support of forthcoming tests, inspections, and trials.

Funding

The SCN end cost estimate to accomplish SARATOGA Service Life Extension Program submitted to Congress in FY 1978 was $515.7 million. Approved adjustments in the escalation indices in FY 1980 and FY 1981 increased the budgeted amount to $535.0 million. Advance procurement money in the amount of $106.2 million was provided in FY 1980 and prior; balance funding of $420.4 million was provided in FY 1981 and $8.4 million escalation in FY 1982.

USS FORRESTAL (CV-59)

Background

The FORRESTAL is scheduled to enter the Philadelphia Naval Shipyard in January of 1983. The FORRESTAL Modernization Package has been determined and the repair package is in the final stages of definition. Experience gained on SARATOGA is being incorporated in FORRESTAL planning. As examples, SARATOGA delays in main propulsion engine overhauls will not be experienced on the FORRESTAL through use of spare rotors. Experience from the late identification of SARATOGA tank piping repairs will result in earlier piping tests on FORRESTAL. Extensive growth in structural repairs to the SARATOGA catapults will result in earlier and more thorough FORRESTAL testing, and revision to the shipyards manning strategy.

Status

The earlier and more thorough pre-availability testing accomplished on FORRESTAL indicates that the FORRESTAL will enter the Service Life Extension Program in a worse overall material condition than SARATOGA and will require increased effort and funding to restore to a serviceable condition. Catapult components show massive corrosion and will require extensive renovation to return to "like-new" condition. All advance milestones are on schedule and support commencement of the Service Life Extension Program on time.

Funding

In FY 1981 $81.0 million and in FY 1982 $81.0 million was provided for advance procurement of government furnished material, shipyard furnished material, and design preparation. Balance funding of $536.5 million is included in the FY 1983 budget request to provide a total SCN end cost of $698.5 million.

USS INDEPENDENCE (CV-62)

Background

The INDEPENDENCE is in early planning stages. The Service Life Extension Program start date is scheduled for April 1985.

Status

Advance planning milestones are on schedule. Lessons learned from prior ships are included in planning strategy.

Funding

The FY 1983 budget request includes $163 million for advance procurement of government furnished equipment, shipyard furnished equipment, and detailed design preparation.

Summary

The Service Life Extension Program is a highly beneficial program with a renewed carrier being turned out at 2-year intervals for about one-third of a billion dollars annually. We can be justly proud of the performance so far in the program.

FINANCIAL DEVELOPMENTS

Escalation and Cost Growth

The FY 1983 Shipbuilding and Conversion, Navy budget includes a funding request for the completion of ongoing programs authorized by the Congress in previous years.

The Navy has requested funding in the past related to the completion of prior year programs in two procurement line items entitled "Escalation" and "Cost Growth." By way of introduction, I would like to spend just a few moments discussing the content of these two line items.

All shipbuilding programs involve numerous contracts. In most instances, the single largest contract is the "basic ship construction contract" between the Navy and the shipbuilder. This contract, which can span a 5- to 10-year period, provides for the construction of the hull and the installation of equipment and material which makes the ship ready for sea. Other contracts with various suppliers provide much of the equipment which will be installed aboard the ship by the shipbuilder. Basic ship construction contracts typically provide for reimbursement of the effects of inflation as measured by the Bureau of Labor Statistics (BLS) in the "Steel Vessel Construction Index." This BLS index is the shipbuilders' equivalent of the Consumer Price Index.

DEFINITIONS

ESCALATION

SHORTFALLS IN THE AMOUNTS OWED TO SHIPBUILDERS FOR INFLATION ON THE BASIC SHIP CONSTRUCTION CONTRACT

COST GROWTH

SHORTFALLS IN:

- **THE UNINFLATED COST OF A BASIC SHIP CONSTRUCTION CONTRACT**
- **ANY OTHER CONTRACT**

CHART 10

Given this background, I can define the "Escalation" line item as the funds required for shortfalls in the amounts owed to shipbuilders for inflation on the basic ship construction contract. "Cost Growth" is defined as the funds needed for shortfalls which may occur in the uninflated cost of the ship construction contract plus shortfalls on any other contracts. Therefore, requests for "Escalation" result primarily from the performance of the economy.

FY 1983 REQUEST

ESCALATION	**$209.2 MILLION**

PRIMARILY DUE TO:

- **HIGHER THAN PROJECTED INFLATION WHICH OCCURRED DURING FY 1980 AND 1981**
- **INCREASE IN THE UNESCALATED COST BASE AND LATER DELIVERY DATES OF THE OHIO CLASS SHIPBUILDING PROGRAM**

CHART 11

The FY 1983 request contains $209.2 million for "Escalation" which is required to complete prior year shipbuilding programs. The request is based on adjustments to reflect actual inflation rates during 1980 and part of 1981. Also, as I mentioned earlier in the Submarine Construction Program section of my statement, $132.3 million has been included in the Escalation line item to cover the unfunded escalation portion of the OHIO Class shipbuilding program increase.

FY 1983 REQUEST

COST GROWTH	$314.2 MILLION
PRIMARILY DUE TO:	
● OHIO CLASS BASIC CONSTRUCTION CONTRACT INCREASE	$91.3 MILLION
● LOS ANGELES CLASS NUCLEAR ATTACK SUBMARINE PROGRAM VERTICAL LAUNCH TOMAHAWK BACK-FITTED TO PRIOR YEAR SHIPS	$139.4 MILLION
● BASIC CONSTRUCTION CONTRACT INCREASE ON FY 1981 SHIPS	$40.0 MILLION
● CVN 71 NUCLEAR AIRCRAFT CARRIER FUTURE CHARACTERISTICS CHANGES	$43.5 MILLION

CHART 12

To fund the completion of prior year programs, $314.2 million is requested in the "Cost Growth" line item. As I discussed earlier, $91.3 million of the request will fund the increase in the OHIO Class shipbuilding contract. The second item of the Cost Growth request will fund the installation of the remainder of the Vertical Launch TOMAHAWK missile system into the prior year LOS ANGELES Class submarines. With this request, all LOS ANGELES Class submarines starting with SSN 719 (authorized in FY 1978) will have a TOMAHAWK capability.

Following the contract signed in August 1981 with Newport News Shipbuilding and Drydock Company for construction of two FY 1980 submarines and one FY 1981 submarine, a contract was awarded in February 1982 to the Electric Boat Division for the remaining FY 1982 submarine. This award required the use of escalation and growth reserves to fund the estimated cost of the contract. To replace these reserves, $40 million is requested.

Finally, the award of the CVN 71 Nuclear Aircraft Carrier shipbuilding contract, in September of 1980, exhausted all Future Characteristics Changes reserves in order to incorporate the Improved Damage Protection System into that ship during construction. This request of $43.5 million will enable the Navy to incorporate technological improvements into this ship as they are identified.

Of the Cost Growth request, more than half is for capability improvement. It is both less expensive and faster to install these upgrades while the ships are under construction rather than wait until a later overhaul.

Ship Design

Also included in the FY 1983 Shipbuilding and Conversion, Navy (SCN) budget request is $97.2 million for Ship Design funding requirements. In previous years, this work was funded in the Research, Development, Test and Evaluation, Navy (RDT&E,N) appropriation.

The requested Ship Design line in the SCN appropriation will fund the Contract Design requirements of all ships in the Navy's shipbuilding program. The contract design phase commences at the completion of the RDT&E funded preliminary design phase and ends with the award of a contract for the detail design and construction of the ship. By the start of contract design, the ship design is essentially set. During contract design it is refined and made into a set of contract drawings and specifications to be incorporated in the ship construction contract. Since the majority of the contract design effort is spent preparing this input to the contract package, this work can reasonably be funded under procurement rather than RDT&E,N. Efforts formerly funded under the RDT&E,N appropriation which are truly developmental in nature, such as land-based test sites and product improvements, will continue to be budgeted in the RDT&E,N appropriation. Funding for Preliminary Design requirements will also remain in RDT&E,N.

Ship contract design is not a developmental effort in our shipbuilding programs. However, the nature of the products of ship design are such that they are required prior to award of the basic construction contract. Since the basic construction contract is funded in the year of Congressional authorization, this usually means ship contract design must be funded 1 or 2 years in advance of the shipbuilding contract. Therefore, we are requesting these funds as a line item separate from the individual ships, which will be requested 1 or 2 years later.

Funding Contract Design in the SCN Appropriation will improve coordination between the production of contract designs and the shipbuilding program and increase stability in the 5-year defense plan. It will improve execution of the shipbuilding program through improved coordination with changes in the funding required for design as the funding for the shipbuilding program itself changes. Therefore, program changes will be more clearly shown, explained, and coordinated.

One of the obstacles that has hampered Ship Contract Design under RDT&E,N is the policy that RDT&E,N funds have obligational availability for only 1 year except under unusual circumstances. Unlike most large Engineering Development line items, Ship Design does not result in annual increments to large development contracts early in the fiscal year. In general, the Navy manages the production of designs through the award of relatively small discrete work packages to a design agent timed to meet the shipbuilding program schedule. In recent years, the DOD Appropriation Act has been approved after the beginning of the fiscal year. A combination of late appropriation acts which include shipbuilding program changes and the contract design funds in a separate and unrelated appropriation has resulted in the Ship Contract Design line lagging the normal RDT&E,N programs in expenditure and obligation rates. These low rates have resulted in budget reductions in later years. In addition, the funds are sometimes not budgeted in RDT&E,N for changes made in shipbuilding programs in SCN. The Navy can manage its ship design efforts much more effectively with SCN funds.

Seven-Year Appropriation for Shipbuilding

The Navy is requesting that the FY 1983 shipbuilding appropriation be made available for 7 years in lieu of the 5-year period approved in previous appropriations. While the 5-year period of availability was established to provide Congress greater control, it was also designed to allow the Department of the Navy ample time to obligate the funds in an orderly manner to accomplish the authorized program. This period of availability was arrived at after consideration of the time period required to obtain the equipment being procured in that appropriation. On the basis of the past several years' experience, the average length of time from the first availability of an appropriation until the correction of deficiencies during the post-shakedown work on a ship has been nearly 7 years. A General Accounting Office report, requested by the House Appropriations Committee, recommended that the Congress allow the Navy 7 years in which to obligate shipbuilding funds. The Navy fully concurs in this report and requests that the FY 1983 shipbuilding appropriation be made available for 7 years.

I would now like to turn to an assessment of our capability to carry out the program which is being requested in the FY 1983 Budget Submission. As I stated earlier, the Navy has 86 ships under construction in private yards as of 1 March 1982. In addition, the SARATOGA (CV-60) Service Life Extension is being done in a public yard. In 1982, the Congress appropriated funds for the new construction of 17 ships and acquisition of 4 ships. In addition, funds were provided for the reactivation and modernization of the battleship NEW JERSEY (BB-62), and the conversion of four Fast Logistics Ships (TAKRX). Eight of the seventeen new construction ships have been placed under contract as of 1 March 1982.

Chart 13 shows the President's Five Year Shipbuilding Program for FY 1983-1987. The FY 1983 request includes 18 new construction and 7 conversions, reactivations, and acquisition of TAHX (C) (Acq).

I will briefly discuss some of the highlights of this program.

Nuclear Aircraft Carrier (CVN)

The budget request includes $6,795.3 million for two nuclear aircraft carriers in FY 1983. This amount is in addition to $475 million appropriated in FY 1982 for

FY 1983 FIVE YEAR SHIPBUILDING PROGRAM

	FY 83	FY 84	FY 85	FY 86	FY 87
FLEET BALLISTIC MISSILE SUBMARINE (OHIO CLASS)	2	1	1	1	1
NUCLEAR ATTACK SUBMARINE (LOS ANGELES CLASS)	2	3	4	4	4
NUCLEAR AIRCRAFT CARRIER (CVN)	2	—	—	—	—
AIRCRAFT CARRIER (CV-SLEP)	1	—	1	—	1

	FY 83	FY 84	FY 85	FY 86	FY 87
GUIDED MISSILE CRUISER (AEGIS) (CG)	3	3	3	4	4
NUCLEAR GUIDED MISSILE CRUISER (CGN-42)	—	—	—	—	1
BATTLESHIP (BB REACTIVATION)	1	1	1	—	—
GUIDED MISSILE DESTROYER (DDG-51)	—	—	1	—	3
DESTROYER (DD-963)	—	—	—	2	1
GUIDED MISSILE FRIGATE (FFG-7)	2	2	2	3	3
AMPHIBIOUS ASSAULT SHIP (GENERAL PURPOSE) (LHD-1)	—	1	—	—	1
DOCK LANDING SHIP (LSD)	1	1	2	2	2
MINE COUNTERMEASURES SHIP (MCM)	4	4	5	—	—
MINE SWEEPER HUNTER SHIP (MSH-1)	—	1	—	5	5
FAST COMBAT SUPPORT SHIP (AOE)	—	—	1	1	2
AMMUNITION SHIP (AE)	—	—	1	2	1
DESTROYER TENDER (AD)	—	—	—	1	1
OCEAN SURVEILLANCE SHIP (AGOS)	—	1	—	2	3
SALVAGE SHIP (ARS)	1	1	—	—	—
FLEET OILER (TAO)	1	3	4	4	6
HOSPITAL SHIP (TAH) (C) (ACQ)	1	1	—	—	—
CABLE LAYING AND REPAIR SHIP (TARC)	—	—	—	1	—
RANGE INSTRUMENTATION SHIP (TAGM) (C)	—	—	—	1	—
OCEAN SURVEY SHIP (TAGS) (C)	—	—	2	—	—
FBM RESUPPLY SHIP (TAK) (C)	—	—	1	—	—
FAST LOGISTICS SHIP (TAKRX) (C)	4	—	—	—	—
TOTAL NEW CONSTRUCTION	18	21	24	32	38
TOTAL CONVERSIONS (C)	7	2	5	1	1
TOTAL	25	23	29	33	39

CHART 13

the advance procurement of long lead time nuclear components. Two acquisition strategies were considered for this program. The traditional strategy would fund the two carriers in separate years. The most effective strategy, and the one requested by the Navy, is to fully fund both ships in FY 1983. This alternative focuses on the procurement of two shipsets of equipment, series production, and serial fabrication of major assemblies. This strategy is aimed at assuming the most economic, efficient, and rapid means of obtaining two new carriers, so essential to improving America's defense. This business strategy incorporates many advantages. Delivery dates are improved; each ship delivers 22 months earlier than attainable for one ship at a time. Better planning, scheduling, and facility utilization will result in significantly improved construction methods. Additionally, savings estimated at over $700 million are expected from reduced escalation from earlier deliveries; economic order quantity savings from multiple shipset buys; the reduction of startup, setup, and other nonrecurring costs; and improved planning, manpower utilization, and productivity. This acquisition strategy has the further advantage of strengthening the industrial base, maintenance of vendor continuity, and reduction of production gaps at prime and subcontractor levels. It should be noted that the additional government outlays in the early years of this program are small. The net increase in outlays in FY 1983 are estimated to be less than $25 million over the traditional approach. Thus, the advantages of the alternative acquisition strategy clearly indicate that two ships, fully funded in FY 1983, is the preferred method.

Guided Missile Cruiser (CG-47 Class)

Three CG-47 Class ships and $3,134.4 million are requested in the FY 1983 budget. The first ship was authorized in 1978, with six more authorized through 1982. All ships to date are on schedule and within established budgets. TICONDEROGA, the lead ship of the class, is expected to commission in January 1983.

Last year the Secretary of the Navy determined that a second shipyard should be brought into the program. There are several benefits that come from having more than one source for construction of a ship class. The competition will ensure that we are getting these ships at the best possible cost. In addition, we are expanding the shipbuilding industrial base for construction and overhaul of ships of this type while increasing the number of shipyards with AEGIS weapon system experience, both of which will benefit future shipbuilding programs. A second source provides program flexibility by increasing the production surge capability and providing added insurance against the impact of natural disasters which could disrupt production programs. A competition is now underway between Bath Iron Works, General Dynamics (Quincy), Newport News Shipbuilding and Drydock, and Todd shipyards for that purpose. One of the three FY 1982 ships (CG-51) is planned to be the first ship constructed in the second yard and we expect to award the contract in June of this year. The FY 1982 supplemental requests $80 million as partial payment for the additional costs which will accompany the new builder. A better estimate of these additional costs will not be available until after the shipbuilder is selected. Once a selection is made, we expect to keep both shipbuilders involved in the CG-47 Class construction program.

Guided Missile Destroyer (DDG-51)

The DDG-51 (formerly DDGX) ship acquisition program is a major program to obtain replacement ships for the battle group cruisers and destroyers (DDG-2, DDG-37, CG-16, and CG-26 Class ships) scheduled to be retired in the early 1990s. Procurement of approximately 60 ships is planned with lead ship award scheduled for FY 1985. DDG-51 will supplement the TICONDEROGA Class cruisers and the SPRUANCE Class destroyers in the Battle Groups of the 1990s. While the sensors and weapons in the DDG-51 and the TICONDEROGA Classes are similar, the TICONDEROGA Class has greater capability: more missiles, torpedoes, illuminators, and two LAMPS helicopters on board and the ability to serve as a flagship. The DDG-51 is a capable multi-mission ship with at-sea proven engineering systems and state-of-the-art combat systems.

This ship is the single new major combatant ship design of the decade. Its design effort has been thorough, intensive, and is continuing on schedule. We are about to start the preliminary design phase as shown in Chart 14. Contract design will commence in January 1983 to be followed by the award of the lead shipbuilding contract in FY 1985.

The warship design process consists of a sequence of steps each involving an increasing level of detail and finer definition of features of the new ship. These steps are feasibility studies, preliminary design, contract design, and detail design (construction follows based on detail design and the contract specifications). Feasibility studies are conducted for the purpose of trading off major military requirements versus constraints such as ship size and cost. The selected configuration from the feasibility studies and the guidance characteristics and requirements furnished by the Chief of Naval Operations define the starting point. Typical trade-off issues are weapons, sensors, speed, endurance,

DDG 51 MASTER PROGRAM SCHEDULE

(FY 85 LEAD SHIP AUTHORIZATION)

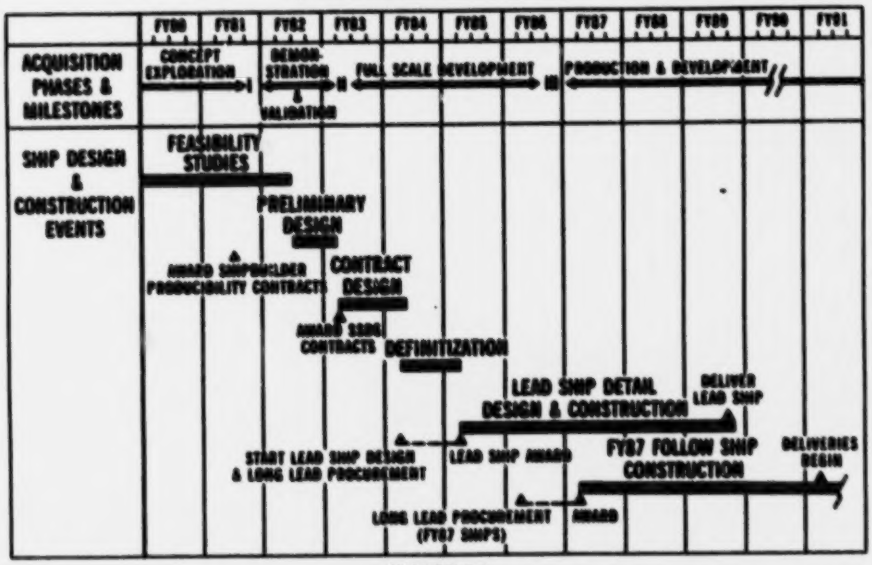


CHART 14

and degree of ship protection. Risk areas are identified. The ship description resulting from these studies may be substantially altered during the next design phase (preliminary design) as refinements occur. The trade-off studies for the DDG-51 through 1980 were aimed at selecting hull, machinery, electrical, and combat system concepts. By the end of 1980, the major combat subsystems, weapons, and some propulsion systems were selected. During 1981, the feasibility studies refined these features of the DDG-51. We have now completed all of the major trade-offs and are about to start formal preliminary design contingent upon approval of the ship characteristics by the Chief of Naval Operations. The major objectives of preliminary design are to produce a budget quality cost estimate and quantify mission performance. In this process, technical risks must be reduced to the "low" range, overall ship size and configuration must be established, and major equipment items must be selected. Therefore, trade-off studies are performed in areas which may have a substantial impact on ship size, cost, configuration, or mission performance. Major components selected must be of proven design and service tested. The preliminary design phase results in a general arrangement, a list of major equipments, and a refined weight estimate. Preliminary design typically requires 2,500 to 5,000 man-days over 4 to 7 months for a ship of this type. Preliminary design of the DDG-51 will be completed by January 1983.

The next phase, contract design, produces a ship description in the form of specifications and drawings that are complete to the extent that an acquisition contract can be awarded based on the completed design package. During this phase, engineering trade-off studies to optimize the various ship systems are conducted. Approximately 800 specification pages and 100 drawings are normal for a combatant ship the size of the DDG-51. A detailed weight estimate and master equipment list are also produced. Typically 30,000 to 60,000 man-days over 10 to 16 months are expended on a ship of this type. Additionally, it is normal to conduct model tests, build mockups, and initiate land-based tests during this period. Contract design of the DDG-51 is scheduled to start in January 1983 and complete in January 1984. In 1983, at the beginning of contract design, two shipbuilders will be awarded separate Ship System Design Support (SSDS) contracts, which will support the central Navy contract design effort. One of the shipbuilders will be the prospective lead shipbuilder and the second will be the alternate. Detail design will be performed by the prospective lead shipbuilder for DDG-51. Initial detail design will start in January 1984. Detail design will continue under the detail design and construction contract to be awarded in FY 1985.

During 1981 several competitive design and study contracts were awarded to industry. RCA is the Combat Systems Engineering Agent helping to develop the design of the combat system including functional descriptions, definitions of interfaces, risk identification, and risk reduction planning. This effort will later include integration and testing systems, development of control systems at a land-based engineering facility and support of installation and checkout of the combat system on the lead and follow ships. Producibility study contracts were competitively awarded to seven surface combatant shipbuilders to allow the Navy to obtain shipbuilder input in a variety of discrete design areas in order to enhance the producibility of the ship. This early involvement of the shipbuilders also serves to keep the industry current with the design.

The lead ship detail design and construction contract will be the result of a sole source negotiation with the prospective shipbuilder. Contract award is scheduled by January 1985 and ship delivery by July 1989. It is planned that a second source for DDGs will be obtained in FY 1987 which is the first year that multiple ships are expected to be authorized.

The DDG-51 design incorporates a modular concept for the installation of three weapons modules based on an engineering effort we have been developing separately called "Ship Systems Engineering Standards (SSES)". SSES concepts for modularity of weapons and electronics spaces are being utilized in our ship designs as rapidly as they are technically feasible. To test the validity of these concepts prior to their incorporation in a production design, a notional ship study called the Mid-Size Combatant was developed to a degree suitable for making gross trade-offs. The modular concept provides the flexibility to change weapon or electronics stations without expensive rip-outs and auxiliary systems modifications. The products of the NAVSEA SSES effort which have potential benefit to the DDG-51 design are:

a. Preliminary zone standards

b. Preliminary weapons module standards

c. Test and evaluation requirements

d. Preliminary electronic module standards

e. Preliminary topside standards

Not all of these concepts are sufficiently developed to be used on DDG-51. However, NAVSEA will continue to develop the SSES concept and apply it to other new ship designs or alterations where beneficial.

The DDG-51 technical characteristics include the SPY-ID radar, the SPS-67 surface search radar, three SPG-62 illuminators (which can be upgraded to agile beam illuminators), the SLQ-32 (V2) Electronic Warfare System, the SQS-53C sonar, the SQR-19 TACTAS, LAMPS, Shipboard Electronic and Control, and a helo deck with Helicopter In-Flight Refueling (HIFR). The weapons will include two vertical launch systems, one 64 cell (B module) and one 32 cell (A module) (all VLS cells are capable of carrying the SM-2 (MR) and TOMAHAWK), two Quad HARPOON launchers, one 5-inch 54 gun (A Module) with a gun fire control system, two MK 32 torpedo tubes (no reloads), and two MK 15 PHALANX point defense systems. The current full load displacement is 8,500 long tons. Four LM 2500 gas turbines for main propulsion with controllable reversible pitch propellers develop 80,000 total shaft horsepower. The electrical system is comprised of four 2500 kw Allison 501-K34 gas turbine generators with all electrical auxiliaries. Accommodations will be provided for a total crew of 336.

Amphibious Assault Ship (LHD-1)

The Navy is requesting $55 million for Amphibious Assault Ship (LHD-1) in FY 1983 for a continuation of long lead time material procurement begun in FY

1982. The LHD-1 will be a general purpose amphibious assault ship designed primarily for amphibious warfare; however, the ship in a convertible role will have the capability of deploying fixed-wing (VSTOL) aircraft and helicopters in secondary sea control and power projection roles. The objective of the LHD-1 program is to deliver ships to the fleet to maintain and increase amphibious lift capability and to support current and developing amphibious warfare concepts through the year 2030. Originally planned for a lead ship award in FY 1987, the program has been accelerated for lead ship award in early FY 1984.

The LHD-1 will be a modified LHA-1 Class ship maximizing the use of identical arrangements, subsystems, and equipment of the LHA-1 Class ships which have proven, satisfactory service performance. Feasibility studies assessing the design impact of required modifications were completed in January 1982. In December 1981 a contract was awarded to Ingalls Shipbuilding Division of Litton Industries to commence development of the LHD-1 baseline design. By June of 1982 contractor and Navy in-house efforts will culminate in a set of preliminary specifications and drawings. Because of the knowledge and experience gained by Ingalls on the LHA program, as well as the delivery schedule requirements, extensive involvement by Ingalls is planned throughout the design development resulting, in July of 1982, in award of a sole source contract to Ingalls for completion of the contract design, procurement of long lead materials, and an option for lead ship construction. The Navy/Industrial teams are on schedule towards executing the accelerated construction award for the lead ship in early FY 1984.

Mine Sweeper Hunter Ship (MSH)

The Navy is requesting authorization in FY 1984 of the lead ship in a new class of Mine Sweeper Hunter Ships (formerly Coastal Mine Sweeper). The MSH provides mine hunting and neutralization capability in coastal waters. Various concept designs are concentrating on a low cost ship consistent with the required mission. State-of-the-art minesweeping equipment and technology will be used. The baseline ship will be in the 140-foot to 152-foot range and will displace approximately 150 tons. Preliminary design is expected to commence in April 1982 and complete in September 1982. The contract design is planned to be completed in August 1983.

The Navy plans a program of approximately 17 ships, with 5 follow ships in FY 1986 and 5 in FY 1987. The acquisition strategy is to select, through competition, two Ship System Design Support (SSDS) contractors, a primary and secondary, to participate in the contract design. Subject to satisfactory performance during the SSDS phase, the Navy intends to negotiate with the primary SSDS contractor for detail design and construction of the lead ship. The secondary SSDS contractor will continue to provide design support until release of the follow ship solicitation. This early industry participation in the ship design effort will facilitate the identification and incorporation of industry recommendations as to producibility and cost saving features. Familiarization with the ship design will enhance the validity of the cost proposal submitted by the primary SSDS contractor for the lead ship cost reimbursable contract.

Ocean Surveillance Ship (SWATH AGOS)

The Navy is requesting $24.3 million in FY 1983 funds for acquisition of detail design and long lead material for a new class of Ocean Surveillance (AGOS) ships employing the Small Waterplane Area Twin Hull (SWATH) concept.

The Navy has been examining SWATH applications since the early 1970s. The Navy has built and is currently operating a SWATH vessel, the work boat SSP KAIMALINO, in Hawaii. The ship was launched in 1974 and has met all its performance objectives and has been used to demonstrate the concept of towing an array from a SWATH. The Navy has had a SWATH technology base program for the past 10 years and has developed the design tools and experience necessary to conduct detail design and construction of a ship.

SWATH ships use large submerged lower hulls to provide buoyancy. The topside structure forms the upper hull, which is connected to the lower hulls by relatively thin-section struts on each side of the ship. These struts provide the small waterplane area that is characteristic of the SWATH concept. The net effect produced by moving the major source of buoyancy beneath the surface waves is a hull form with much reduced deck motions and excellent seakindliness in high waves. This makes the SWATH configuration most attractive for missions requiring extended time on station, sustained speed in a seaway, and enhanced mission effectiveness in the rough sea environments such as might be encountered a good portion of the time in the North Atlantic and throughout the world during periods of bad weather.

Specifically, when compared to a monohull, the SWATH provides the following advantages:

First — Crew comfort and performance is greatly improved due to reduced ship motions in a seaway particularly at the low speeds unique to the long endurance survival mission of this ship.

Second — The storage and towing winch for the SWATH surveillance Towed Array Sonar System is located amidship between the two side struts in an enclosed compartment of the upper hull. Because of the easy motions of the SWATH, the acoustic array can then be deployed, towed, and retrieved through a relatively small opening in the bottom of the upper hull. In contrast, the array winch on the stern of the monohull ship is directly exposed to the weather and heavy seas. The enclosed winch location in the SWATH AGOS has the further advantage of protecting the crew from the weather and seas while manhandling the array during launch and retrieve operations and will greatly facilitate this procedure in high seas. In addition, this central location minimizes tow point, wave induced motion and its degrading effect on the acoustic performance of the towed array.

Third — Positioning of the streamed acoustic array relative to the threat axis is an important consideration in maximizing submarine detection capability. A SWATH ship can stream the array at optimal acoustic headings in higher seas than a monohull because its inherent seakindliness.

Six SWATH ships, when deployed in conjunction with the 12 conventional monohull T-AGOS ships currently authorized, will provide a cost-effective mobile ocean surveillance capability to augment our fixed systems.

Detail design and long lead material acquisition will begin in FY 1983. Lead ship construction is planned to begin in early 1984 with lead ship delivery in the second quarter of the calendar year 1987. A 1-year gap is planned between acquisition of the lead ship and the first follow ship to allow for design maturity and construction experience.

Fleet Oiler (T-AO)

As I noted earlier, the T-AO is the only FY 1982 ship which will not be awarded in FY 1982. Award of this ship has been delayed intentionally in order to permit consolidation of the FY 1982 and FY 1983 ships into a single package of two ships for award early in FY 1983. In FY 1983 $210.2 million is requested for the second ship. These two ships will form the initial increment of a five-ship procurement. The remaining three ships are included as part of the FY 1984 budget request and will constitute a three-ship option to the initial two-ship award. Also included in the FY 1983 T-AO budget request is $109.8 million for purchase of a number of long-lead time, major contractor-procured equipments and materials for the three FY 1984 ships. Thus, the initial contract award will be for construction of two ships and procurement of a significant amount of material for all five ships with an option for construction of the remaining three ships. This will foster cost savings and standardization by permitting early ordering of five shipsets of materials in economic quantities. Further, it will encourage the investment of shipbuilder corporate funds into facility improvements.

Hospital Ship (T-AHX) (C) (Acq)

In the case of the hospital ship, T-AHX (C) (Acq), we have solicited proposals from industry to satisfy our requirement for an afloat definitive care facility totaling 2,000 beds and 24 operating rooms. Based upon initial inputs, it is expected that a number of teams comprised of ship owners, shipbuilders, and design agents will offer various alternatives for this mission. These will be reviewed in depth and the most promising selected for further design development under a Navy-funded contract. This effort is expected to last approximately 9 months. It should be noted that alternatives of one, two, or three ships may be proposed for this evaluation. Thus, Chart 13 displays only a notional program of two ships, one in FY 1983 and one in FY 1984. In FY 1983 $300 million is requested and in FY 1984 $260 million is requested for authorization for this program. At the conclusion of the evaluation, the proposal offering the greatest overall advantage to the Navy will be selected and the ship(s) converted under a purchase and convert contract. Award of this contract should take place in mid-1983.

Fast Logistics Ship (TAKRX)

The acquisition strategy for the fast logistic ship program (designated TAKRX) includes the purchase of the eight SL-7 Class container ships and their conversion to permit transport of military equipment and supplies. The conversions also will provide ship capabilities for loading and off-loading independent of shore-side facilities. Six of the SL-7 ships have been purchased with the FY 1981 appropriated funds provided. The remaining two ships will be procured with FY 1982 funds. FY 1982 funds also were provided for the conversion of four SL-7 ships and for enhancement of the existing capabilities of the other four SL-7 ships. In FY 1983 we are requesting $322.6 million to convert these other four SL-7 ships.

The acquisition strategy has been structured to provide maximum competition in order to achieve the most capability in the converted ships within a design-to-cost constraint. Awards were made to multiple shipyards for initial designs which will be followed by further competition during an engineering design phase resulting in contracts for the conversions. These contracts will be awarded to multiple shipyards in September 1982 for the conversion of four ships, with options for the conversion of the remaining four ships in FY 1983. Conversions of the four ships funded in FY 1982 are planned to be completed in 1984, and the FY 1983 funded conversions are planned to be completed in 1985. Excellent progress is being made on the fast logistic ship program, and I anticipate successful completion of the program which will provide this urgently needed capability.

RESOURCES AVAILABLE TO PERFORM WORK IN PRIVATE AND PUBLIC SHIPYARDS

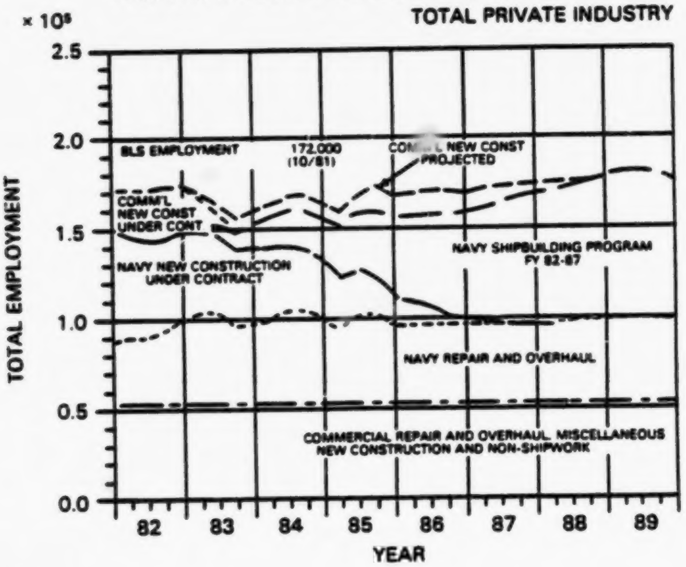


CHART 15

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Workload—Major Private Shipyards

Chart 15 portrays the total shipbuilding industry workload forecast for the private sector through 1989. Included are workload curves for all current firm work, the commercial overhaul and repair base, the Navy overhaul and repair work, Navy new construction and commercial and Coast Guard new construction. In addition, we provide projection for those segments of the work contained in the fiscal year 1983 Navy Five Year Shipbuilding Program and the five-year forecast for commercial new construction by the Maritime Administration.

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The distribution of work in the industry currently runs approximately 60 percent on Navy new construction and overhaul and 40 percent on commercial work. In the late 1980s, the Navy's percentage will increase unless the commercial new construction demand increases. The Maritime Administration's last published projection shows the construction of 25 ships in its merchant shipbuilding program between FY 1982 and FY 1986.

Due to the uncertainty of commerical new construction levels, and the fact that the FY 1982 and 1983 shipbuilding programs will have a limited impact on the industry workload for about 24 months, a decline of approximately 14,000 workers from the recent employment level of nearly 173,000 is predicted to occur prior to the beginning of 1985. However, the net impact of the proposed FY 1983-1987 shipbuilding program is also shown. Projected employment required for naval construction and conversion represents an increase of 15 to 20 percent by the end of 1987 over the current Navy new construction work level. Navy overhaul work is expected to increase in the private sector through the 1980s. Given proper management, it is reasonable to expect that the necessary adjustment of labor skill mixes and proper facilities can be made to handle the projected program.

Resources Available to Public and Private Yards

There are currently 26 private shipyards in the United States which are building or have built and maintained ships for the Navy and the merchant fleet. Of these 26 yards, there are 12 major shipyards so categorized because of their overall capability from the standpoint of workforce size and facilities shown on Chart 16. Due to the relatively low level of Navy and commercial shipbuilding over the past several years, some of these major yards have been reduced to minimal

MAJOR PRIVATE SHIPYARDS AND CURRENT CONSTRUCTION ASSIGNMENTS
(1 March 1982)

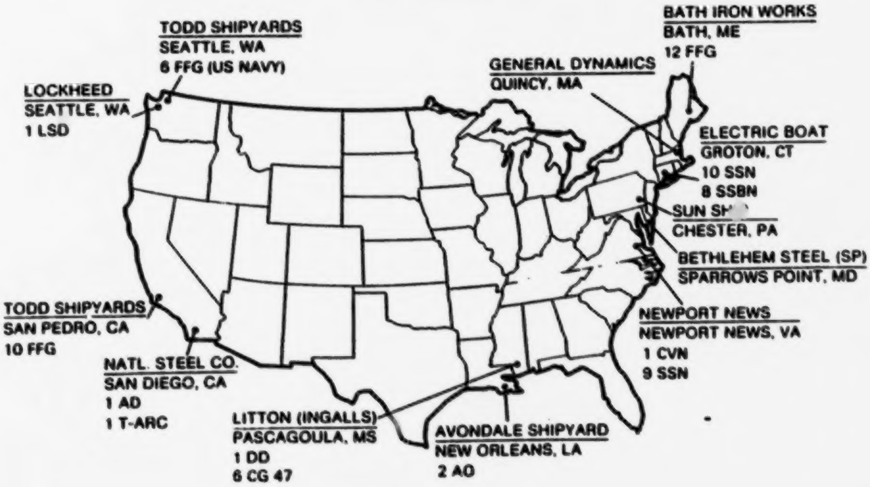
TODD SHIPYARDS
SEATTLE, WA
6 FFG (US NAVY)
LOCKHEED
SEATTLE, WA
1 LSD
GENERAL DYNAMICS
QUINCY, MA
BATH IRON WORKS
BATH, ME
12 FFG
ELECTRIC BOAT
GROTON, CT
10 SSN
8 SSBN
SUN SH[illegible]
CHESTER, PA
BETHLEHEM STEEL (SP)
SPARROWS POINT, MD
NEWPORT NEWS
NEWPORT NEWS, VA
1 CVN
9 SSN
TODD SHIPYARDS
SAN PEDRO, CA
10 FFG
NATL. STEEL CO.
SAN DIEGO, CA
1 AD
1 T-ARC
LITTON (INGALLS)
PASCAGOULA, MS
1 DD
6 CG 47
AVONDALE SHIPYARD
NEW ORLEANS, LA
2 AO

CHART 16

workload. These yards are relying on construction of barges, oil rigs, or other work in order to sustain their operations. Of the nine major private shipyards currently engaged in Navy construction, three are constructing auxiliary and amphibious ships, five are constructing major combatants and one, Electric Boat, constructs only submarines.

The expansion of the Navy shipbuilding program is dependent upon supporting industries nationwide as well as shipyards, since work accomplished in constructing a ship is performed in large measure by second tier suppliers. These industries supply electronics, marine equipment, engines, valves, and other products, materials, and services to both the Navy and the shipbuilder.

This supporting industrial base has also suffered from low and fluctuating levels of workload and many have diversified their product lines to stay in business. If these suppliers view the Navy program size and continuity as a long-range commitment, they are likely to re-enter the market. With a larger fleet to build and maintain, expanded output from the supporting industry may be anticipated.

New Construction in Public Shipyards

Presently, public shipyards are used as repair and conversion facilities. The last ships constructed in a public shipyard were two submarines delivered by Mare Island Naval Shipyard in 1972. The Vinson-Trammel Act of 1934, as amended, specifies a division of new construction warships between public and private shipyards, with the lead warship of a class and each succeeding alternate ship to be built in naval shipyards unless specifically exempted by Presidential authority for each program year. Since 1967 the determination has been made to construct all ships in private shipyards; consequently, none of our eight public shipyards are now engaged in new construction of naval ships, although four shipyards, Mare Island, Puget Sound, Portsmouth, and Philadelphia possess this latent capability.

Summary

The successful execution of the Navy shipbuilding program will require considerable effort on the part of the Navy and the entire shipbuilding industry. I believe it is an achievable program and the industrial capacity and capability, both public and private, exist to support both the new construction planned in the five-year defense plan and the repair and modernization work required of the industry.

Thank you, Mr. Chairman. That concludes my prepared statement. I would be happy to respond to any questions that you may have.

Mr. **Bennett**. All right, we will proceed with questioning.

First, I want to say, as I have said before in our meetings that I am certainly very proud that you are a native Jacksonvillian, and have risen to such a high level and performed so well. I think you have done an excellent job in your position and my hometown is real proud of you.

Last year, when you were testifying before us there was a lot of talk about Electric Boat problems, and I would like to ask you if you feel these problems at Electric Boat have been adequately handled, and if not, what specific programs or plans do you have to rectify whatever problems that may exist?

Admiral **Fowler**. Mr. Chairman, we basically are continuing the programs that I discussed last year. We had already almost a year before my testimony last year, done a quality audit. We had arrived at an agreement with the company on actions to be taken on quality control and quality assurance. That was in place then. That program continues on now.

Mr. **Bennett**. Has it worked out pretty well?

Admiral **Fowler**. It has worked very well. We have done further audits of the program and we are pleased that we are moving right along. It is satisfactory in all respects.

Mr. **Bennett**. One thing that I do remember, and one has a tendency to remember irritating things, somebody made an accusation last year that when the Electric Boat people want to have an inspector from the Navy to look at something that was going wrong, they couldn't get hold of the inspectors. Whether that was a valid, justifiable statement last year or not, that is not what I am asking right now. I am asking, has that been corrected by either bringing in additional inspectors or putting people around the clock on alert somewhere where they can answer the telephone and be present if needed? Has that been corrected?

Admiral **Fowler**. Yes sir, we moved in May of 1980 to increase the number of Navy quality control people at Groton. We have done that. I have heard of no problem that regard for a long time. I have checked on it and there is none. We have people available whenever they are needed.

Mr. **Bennett**. You have a duty officer arrangement. You have a telephone you can call and there is always somebody you can get?

Admiral **Fowler**. Yes sir, I have people that actually work full time on two shifts a day. On the third shift late at night if there is a need for somebody there is someone available by telephone.

Mr. **Bennett**. That did concern me last year and I am glad to know that has been corrected and the other things seem to be in order.

Mr. Spence.

Mr. **Spence**. Thank you.

Admiral, I was looking through the statement and you mentioned a while ago something about the Russians had built 70 SSBN's between the time we built the *Will Rogers* and what time was that?

Admiral **Fowler**. The *Will Rogers* was commissioned in April the first day of April 1967. Between that date and the date that the *Ohio*, a newer ship but of the same type, SSBN, was commissioned on November 13, 1981, the Soviet Navy placed in service 70 SSBN's.

Mr. Spence. How many did we build in the meantime?

Admiral Fowler. We are building eight SSBN's but, these were the only two actually commissioned during that time.

Mr. Spence. I was interested in what we had been talking about before, the industrial base we have in this country from the standpoint of our shipbuilding and mainly in private shipyards. Could you tell us what the Navy is doing to try to help these private yards to keep afloat, so to speak, and keep our industrial base intact?

Admiral Fowler. That is a matter that we look at very closely in terms of facilities, and workload, number of people under employment. The yards provide us with information on what they estimate their loads to be and we make our own estimates and we keep in pretty close touch with them, and a there by construct pretty good estimate of where we are headed in terms of total manpower requirements.

We have been troubled with some dropoff in construction workload because we have not been building ships at a decreasing rate over the last few years. And even with the increase in the 1982 program and the increase that is in the 1983 5-year plan, that money will not reach the waterfront in terms of jobs until later this year or even way into next year.

So I don't look for a quick turnaround in the employment level. We are watching that very closely. The Secretary of the Navy in March of last year allocated three submarines to maintain the base and when we awarded the fiscal year 1981 FFG-7 program, we continued the three yards in the FFG-7 program. We are now actively pursuing a second source for the fiscal year 1982 CG-51.

We have a competition going for the CG-51. We are continuing to look at where the overhaul work goes. Although overhaul work has always been competitive, we plan to continue on a competitive basis. We know that this is the only work for those yards that are only in the overhaul business. So we are quite mindful of that.

But the facts of life are that there is a lot more capacity in terms of yards than there is work to go around. So we are never able to totally satisfy any one segment of the industry or any one company, and so find that if I am marching down a path where everyone is equally unhappy with me, then I must be doing about the right thing.

Mr. Spence. Are you restricted in your overhaul work, for instance, to bids, or do you let it out according to bids. Do you have some other way?

Admiral Fowler. In the past, we have followed a firm fixed price bid a formally advertised award on the basis of price alone. We have moved away from that lately because as the ships have gotten more complex, we have been unable to describe completely and exactly the work to be done during overhaul. There are many, many instances where the original award price was on the order of half what the final cost of an overhaul was.

You have a situation where there can be buy-ins. Determination as to whether a buy-in exists is often a subjective judgment. From a business standpoint a buy-in is not inherently bad. In fact, there are times when it makes very good business sense to undertake work for less than it costs to perform the work. However, this practice is not favored by the Department of Defense because it may result in poor performance or an attempt to recover the under proposed costs through overpricing changes of new work. These buy-in situations often wind up in a situation where we have overhaul contracts reflecting substantial growth. To handle that in a more appropriate way, we are using source selection processes, which apply factors other than just the lowest initial price. We look at technical competence, managerial capability. Particularly as we go into the more complex combatant ships, those two factors are important.

So we are moving away from the fixed price to a more complex way of doing business.

Mr. **Spence**. Do you consider the homeport of the ship involved so there can be some savings, I guess, in travel back and forth?

Admiral **Fowler**. One of the prime considerations on where we award ships is that they be overhauled in the homeport if at all possible; if there is no competition in the homeport then this consideration would make it worthwhile to go elsewhere.

Mr. **Spence**. A colleague was mentioning to me about an overhaul—I think on the *Wilson*, DDG—and said that the contract went to a yard a good bit removed from the homeport, at almost double the bid of one of the local yards.

Is there some reason for that that you can think of right off hand?

Admiral **Fowler**. There are very good reasons for it. We ran a competition where there were four criteria. The cost realism was part of the consideration and the initial offering price was not given as much weight as other factors in that award.

Now, there are those who are saying that we take the overhaul to the offerer who is going to give us the work at twice the price. That is absolutely untrue. The facts are that that particular overhaul will cost us about the same no matter what yard we do it in and at least in this case, we know up front what the cost is going to be. That is important to us.

Mr. **Spence**. Thank you, Mr. Chairman.

Mr. **Bennett**. All right, sir.

Mr. Hutto.

Mr. **Hutto**. Thank you, Mr. Chairman.

Admiral Fowler, the two battleships that we authorized to be reactivated, where is the work being done on each of these?

Admiral **Fowler**. The *New Jersey* is being activated and modernized at the Long Beach Naval Shipyard. It is scheduled to be completed the first of the year, in 1983, and the *Iowa*—which is the second ship that we will activate and modernize—will be done on the east coast or gulf coast in a private yard. It was just last Thursday or Friday that we issued the RFP and hopefully by the middle of July, we will have made a determination on which yard it will go to, but it will be in a private shipyard.

Mr. **Hutto**. After the contract is awarded, it will be 24 months after that before it comes out, or what?

Admiral **Fowler**. Yes sir, that is the schedule.

Mr. **Hutto**. On the *New Jersey*, the configuration, will it still include the 16-inch guns?

Admiral **Fowler**. Yes sir.

Mr. **Hutto**. And what else? Are you planning to use it as a missile platform? It is my understanding that it would be.

Admiral **Fowler**. Yes sir, we are installing——

Mr. **Hutto**. It would be reconfigured?

Admiral **Fowler**. We are installing the armored box launchers to carry the Tomahawk missile and installing Harpoon cannisters for the Harpoon missile, of course, and we are installing the point defense system CIWS, and the SLQ-32 electric warfare suite, so it is getting a pretty modern and extremely capable combat system in addition to the 16-inch guns that it had since original construction.

Mr. **Hutto**. I notice on the DDG-51 you indicate that you have incorporated the module concept using the ship systems engineering standards. Is this something that you plan to do on a wide scale or is this going to be limited?

Admiral **Fowler**. Well, I would guess that in all future designs of ships that the whole SSES concept will be examined for feasibility; large size, midsize and small size combatants. The one new combatant ship that we are designing in this decade is the midsize combatant of a destroyer class and probably the next new ship that we would come out with would be a larger combatant, and I would expect that we will look at the possibilities for SSES on this ship. However, depending on where our shipbuilding programs go later in this decade, it might be the smaller size that we would design with SSES, but either one would start to emphasize SSES. When there are three categories you have a different set of problems with each and you need to concentrate on what the problems are for each one of those categories of ships.

Mr. **Hutto**. This concept would provide a longer life, would it not, and allow us to update ships?

Admiral **Fowler**. We think so. Most of the work in this area has been done by others, particularly the Germans. They are not looking so much to future combatant systems to put into the ships as they are looking at interchangeability with what exists today and they do this basically because different countries want different combat suites to meet their own needs. So they need this kind of interchangeability. The more difficult problem is the one that deals with what are you going to put in it in the future, and that is the one that we are studying.

Mr. **Hutto**. Admiral, I notice on your graph chart 4 that you mentioned in your statement, that we had more submarines—I don't know if you said all ships, but maybe you did—it shows ship deliveries, we did indeed receive more in 1981 than we have in a long time, but then the trend went downward. Are we reaching for a 600-ship Navy? What is the cause of fewer deliveries in 1982, 1983, and 1984?

Admiral **Fowler**. On the next page, on chart 5, I show the authorization and the actual award date and the pattern of award, and while that chart is somewhat difficult to arrive at a conclusion on, I would answer your question, the basic question is as they get authorized and funded, we award them and they get built, they get delivered, and this is the way they have come out in the last few years.

As you can see, in the *Los Angeles*-class sub, which is one we have been building for the longer period of time and currently is under construction we hit a peak in the 1972-73-74 years where we were authorized to build five—and then it consistently dropped off down through 1978-79 to one a year and now it is kind of level at about two a year. You will never deliver more than two a year if we only authorize and fund two a year.

Mr. HUTTO. Thank you, Admiral.

Mr. BENNETT. Mr. Emery.

Mr. EMERY. Thank you very much, Mr. Chairman.

Admiral Fowler, I noticed that the FFG's that were included in the fiscal year 1982 budget and appropriated, contracts have not been awarded yet by the Navy. Do you have any idea when that might occur?

Admiral FOWLER. I think it will be done very shortly. We are close to making those awards. The final decisions have not been made on them.

Mr. EMERY. So that is likely to take place within a few weeks?

Admiral FOWLER. Yes sir.

Mr. EMERY. Moving along to some of your testimony relative to the Trident submarine program. On page 9 of your testimony you say that:

> Assuming Electric Boat maintains current work force and applies manpower as necessary to deliver the *Los Angeles* class ships on schedule, unless strong measures are taken by Electric Boat management, it is doubtful that later *Ohio* class subs will be delivered to the contract schedules.

What are the strong measures you think need to be taken and will they in fact be taken, in your opinion, and will they have the desired effect in keeping this program on target?

Admiral FOWLER. Well, I think an improvement in productivity and a perhaps increase in manning are appropriate measures to look at. I am a little concerned with the way I see things going on the outyear Trident submarines. From what we see it looks like they are manning and going to deliver the 688's on the contract delivery dates as I have listed in the prepared statement.

As a result of our concern, we sat down with the company and discussed this and we are currently talking with them about just what measures they might take. We expect that these discussions will be complete by the end of June and I could be more definitive after that time. I wouldn't want to preempt what decisions they make and what conclusions we arrive at before that time.

Mr. EMERY. By and large, you seem a little bit more upbeat on the Trident program as you speak to us today than you were the last time you came before the subcommittee to talk about this program. Is that a fair assessment?

Admiral FOWLER. That is a fair assessment. As I put this prepared statement together and started looking around for the critical issues and problems that I wanted to talk about, I became more optimistic about where we are today than I had been before I started this preparation. So it was very useful to me to do sort of a critical assessment of where we stand. It gave me a little better outlook on how things are going.

Mr. **Emery**. There has been some concern expressed both last year and this year with respect to fully funding two Trident submarines, and I wonder if you can give us some idea what the effect would be on the overall SSBN Trident program and where you see some extreme cost increase problems if Congress should fail to authorize and fully fund both of the requested Trident submarines in this year's budget, what the impact would be?

Admiral **Fowler**. The impact will be delay in the second submarine of 4 months or more, depending on how long it takes us to get it under contract in 1983, or 1984, assuming that it was only delayed to 1984 rather than being eliminated from the program. It would run the cost up. I can't give you an exact number off the top of my head, but it would run the cost up a good bit.

Of course, we would then be basically at about one a year, as you can see from the chart 5 on page 7. While we have talked in the past of one every 8 months or one and a half Tridents per year production rate, without two in fiscal year 1983 we are clearly then at a one a year rate.

Mr. **Emery**. Going back to all of the time schedule slippage problems that we are familiar with from the *Ohio* and its impact on the rest of the Tridents in that series, for the Trident submarines that are now all currently authorized and appropriated, how far has the Trident submarine program in fact slipped from the original plan that was proposed when the *Ohio* was authorized?

Admiral **Fowler**. After last year, I stopped counting ship months and things like that. It is on the order of 3 years. If I may, I would like to correct that for the record.

Mr. **Emery**. If you would.

[The following information was received for the record:]

"OHIO" CLASS SCHEDULE SLIPPAGE

Admiral **Fowler**. The original plan proposed when the lead ship, (U.S.S. *Ohio*) was authorized, involved a 10 ship program with a lead ship delivery date of December 1977. The second ship was to deliver one year later and all follow ships were to be subsequently delivered at 8 month intervals. The actual contract awarded for the lead ship specified a delivery date of April 1979. Each subsequent award followed the one year and eight month interval as described in the program plan.

Subsequent to contract award the program experienced several construction problems which resulted in delayed delivery dates.

On October 28, 1981 the lead ship, U.S.S. *Ohio* (SSBN 726) was delivered 46 months beyond the original plan and 30 months beyond the original contract delivery date.

The contract delivery dates of the follow ships have been adjusted to maintain the construction and delivery intervals.

Based on current contract delivery dates for the 9 ships authorized to date the total slippage from original program plan is 419 ship months. The slippage beyond original contract dates for these ships is 214 ship months.

Admiral **Fowler**. Because there is a difference for different ships in the program. A simple answer is on the order of 3 years over what was originally anticipated. We are talking at the start of the program about a contract delivery of the *Ohio* in April of 1979 and she didn't deliver until late 1981. The later submarines will catch up a bit, because the program is now matured.

You have got to realize back in 1974 when the first *Ohio* was awarded it was a new class of ship, it was a very sophisticated ship, there were lots of risks involved that we now know a lot more about. So it is a mature production program and I didn't think I want to leave you with the thought that the slippages that we would have in the past are very likely to recur in the future. It is a totally different program now that it has matured and you have more of a production line running.

Mr. EMERY. May I submit the rest of my questions for the record since I have to leave?

Mr. BENNETT. Yes sir, you will give us the answers for the record. He is going to give you some for the record.

Mr. Dougherty.

We are glad to have the Secretary aboard. We already praised you before you came.

Mr. SAWYER. I apologize for my delay.

Mr. BENNETT. I want to mention that because if anybody wants to question you at the same time, they can. I overlooked that.

Mr. DOUGHERTY. Thank you, Mr. Chairman.

Mr. Secretary and Admiral, welcome. Let me carry on a discussion of the Trident, Admiral. How many Trident submarines are currently under construction at Electric Boat?

Admiral FOWLER. Eight submarines under construction. The ninth one is under construction but the first one has been delivered, the *Ohio*, so there are eight remaining at the yard. Really, I should say, Mr. Dougherty, on the order book, because that No. 8 is just barely starting construction.

Mr. DOUGHERTY. There are eight under construction in one phase or another at Electric Boat?

Admiral FOWLER. Yes sir.

Mr. DOUGHERTY. Is it not true that last year there were significant problems at Electric Boat with the Trident? I am really asking this for the record, I guess.

Admiral FOWLER. Yes sir, absolutely.

Mr. DOUGHERTY. Based on prior testimony, this committee I think came on very strong that the Navy would not pay any of the costs of correcting the deficiencies on the Trident that were a result of Electric Boat buying bad steel or poor workmanship?

Admiral FOWLER. I don't remember this committee's record. I do remember a congressional record, yes, sir.

Mr. DOUGHERTY. There was a committee hearing, I believe, where we had Mr. Veliotis in from Electric Boat and a number of members of the committee made it very clear we didn't see the Navy being the insurer for Electric Boat to correct their mistakes, and yet in testimony last week, I believe you testified that while the Navy didn't pay to get the work done, in effect, the Navy paid 85 percent of the workers salaries, I would take it, in actually doing the work that had to be done to correct the deficiencies in Electric Boat. Is that correct?

Admiral FOWLER. That is correct.

Mr. DOUGHERTY. How much money was involved? What does that 85 percent equal out to in dollars?

Admiral FOWLER. The money involved is included in the revised end cost increase for the Trident program. The total increase is $330 million. An increase for escalation of $132.3 million is also included in this $330 million.

Mr. **Dougherty**. So you are saying it cost the Navy $220 million in salaries to pay the workers at Electric Boat to correct the deficiencies that had been created at Electric Boat?

Admiral **Fowler**. That is an incorrect statement, Mr. Dougherty. For me to break that out as to what actually went to workers at Electric Boat, I would have to go back and check quite a bit. A good bit of that is escalation cost, a good bit is other costs that are associated with the stretchout of the program as a whole, and how much actually went to Electric Boat as a result of QA problems I will have to answer for the record.

Mr. **Dougherty**. To me it is a very critical figure. You said it was $330 million and you said a third of that would be escalation. Now you are saying $220 million is left. The point I am trying to get is, the U.S. Navy paid money to Electric Boat to pay workers to do overwork that originally was supposed to have been done by Electric Boat. Is that correct?

Admiral **Fowler**. You are essentially correct in that when there is defective work and it has to be redone on any FPIF contract, this is rework that is an allowable charge to the Government under the contract. That was the essence of the insurance issue that we discussed a good bit last year, when we got a request for equitable adjustment from the company and many people thought we were going to pay an insurance claim, as it was often called.

The Navy, as you recall, said no, we weren't, the insurance issue would have to be handled separately from the contract. It would have a different connotation in terms of contract target and fee. We did not allow the reimbursement under the insurance, but since it is in fact work that has to be redone under the terms of our contract, whether it is Electric Boat or any other company, these are charges that are allowable under the contract. In this instance, we have a share line which happens to be on the early *Ohio*-class submarines—85—15 percent over the target for each dollar over target, the Government pays 85 cents and the company's profits are reduced by 15 cents with a point total assumption by the contractor and a contract ceiling.

Mr. **Dougherty**. What is the share line on carriers? If you have to redo the work at Newport News, what is your share line to do the work over on the CVN, is it 85–15?

Admiral **Fowler**. Fifty-fifty.

Mr. **Dougherty**. What about overhaul work on the Aegis destroyer?

Admiral **Fowler**. Overhaul work?

Mr. **Dougherty**. I don't mean overhaul, I mean redo work, where there has been defective workmanship.

Admiral **Fowler**. Early ships in a production program normally are either cost type contracts or fairly flat share lines because of the risks involved in the lead ship. Trident 9 is on a 50–50 share line. The first Aegis ship CG–47 at Ingalls is a cost-type contract so the Government pays for all rework.

Mr. **Dougherty**. Well, I guess my problem is that I specifically want from you for the record, and I would like it provided to me directly—I would like to know that 85 percent figure as it relates to the money the Navy paid to Electric Boat in cost of workmanship to re-do the problems that developed on the Trident, because I have strong reservations about putting two boats into Electric Boat this year in view of the bad track record in the past.

[The following information was received for the record:]

COST OF "OHIO" CLASS QA PROBLEMS

Admiral **FOWLER**. The actual incurred costs for the *Ohio* Class, reported through February 1982 associated with defective welding, improper paint and non-conforming steel problems are approximately $25.5 million. The Government's share of this cost is $21.7 million.

Mr. **DOUGHERTY**. I think you had better be realistic, Admiral. The defense budget is going to get cut and somewhere down the line the Navy better start looking at where you can afford a little slippage.

You are asking for two Tridents and two aircraft carriers at the same time. I think you are pressing your luck, and quite frankly, I have reservations about that. Obviously, there are some priorities.

Did Congress last year authorize long lead for the construction of the LHA?

Admiral **FOWLER**. $45 million was appropriated in fiscal year 1982 and $55 million was authorized for fiscal year 1983.

Mr. **DOUGHERTY**. It authorized an LHA and the name was changed to LHDX and now is called LHD-1?

Admiral **FOWLER**. Yes, sir.

Mr. **DOUGHERTY**. This year the Navy is not asking for full funding, we are going to skip a year and have more money for an amphibious lead ship, is that correct?

Admiral **FOWLER**. We are proceeding with it. Your financial figures are correct. We are proceeding with the design of a new LHD-1 which will be basically an improvement on the LHA-1 design so we can carry the three LCAC's and improve its amphibious capability.

Mr. **DOUGHERTY**. When are we going to get around to rebuilding the U.S. amphibious Navy?

Admiral **FOWLER**. I think we are about that now.

Mr. **DOUGHERTY**. I don't see where it is, Admiral. You have got one LHA long lead this year and I don't mean to be beating on you, because I know it is not your decision, but you are the person who happens to be answering the questions, unless the Assistant Secretary would like to answer the question.

Mr. **SAWYER**. I would be happy to try.

Mr. **DOUGHERTY**. You have LHD. We have block obsolescence. I had testimony the other day from the merchant fleet people, the Council of American Shipowners, to wit, RDF would need 350 cargo ships over that 140 that are supposed to be in the National Defense Reserve Fleet. And in answer to direct comment from me, Admiral Holloway testified that in effect we don't have a reserve fleet that could carry supplies for the RDF.

So when are we going to come around and address directly the whole concept of amphibious lift?

Mr. **BENNETT**. Time has expired.

Do you want to answer, Mr. Sawyer?

Mr. **SAWYER**. Of course, we are working very hard on that, Mr. Dougherty. In fact, I gave two presentations this morning with regard to sealift, the whole sealift issue at the Secretary of Defense level.

You have to balance a program. With regard to amphibious lift, I might want to say with regard to the LHD-1 with the 1984 start that is about as early as humanly can be done without a great deal of risk. The program has been carefully faced. It is a major conversion of the LHA. We are going to talk about a lot of increased capability in that ship over the basic LHA platform, and it takes time to redesign, reengineer, get your procurement specifications and all nine yards that go into it. To try to accelerate that ship to 1983 would have been a very high risk issue. This was carefully reviewed at the time within NAVSEA, within the organization.

Mr. **Dougherty**. Well, my time is up. I will come back on the second round.

Mr. **Bennett**. I will testify a little bit in response to one of your questions.

You asked about paying back the 85 percent. It is my understanding that—I can be corrected if I am wrong—that was part of the contract. The contract provided for the 85 percent. So there is no scandal about the 85 percent. That was something that was in the contract.

Now, the Washington Post attempted, as I read it, with a page or two of content about that contract, they tried to make some sort of a disturbance about it on the theory it should have been 100 percent. Somehow or another the Navy was wrong in not allowing the cost plus contract for the Trident submarine, and there was something evil involved in the fact that it didn't allow 100 percent.

They occupied as late as a year, or less than a year ago, a page and a half of the Washington Post in that kind of criticism. I never understood where there is any great virtue in paying them 100 percent when we got by with paying 85 because of the contract. I never understood it, but they managed to make it look scandalous and it was so scandalous that it was republished in the Florida paper to a great extent. I never understood it there either, but they did arrive at a very strong editorial in opposition to this committee's work.

This committee doesn't draw any contracts. This committee doesn't pass on contracts. It doesn't even read contracts. It is not the function of this committee to do that. But I thought I ought to address that because there has been so much made about it in the press.

Mr. **Dougherty**. Mr. Chairman, if you will just yield for a second, I want to make the record very clear that I am not looking at a scandal at Electric Boat or any of that, I am looking at the capability of the yard to deliver two Trident submarines in a year or in the same year that it is authorized.

Mr. **Bennett**. I didn't think you were. I got worried about the fact that the press can take a fact like this in that contract that provided for 85 percent repay when they think it ought to provide for 100 percent. They made a scandal out of it. We didn't make a scandal out of it. They implied that this Congress wrote the contract, which, of course it didn't, and they also implied that we were wrong in approving a contract, which of course we didn't approve one way or the other.

GAO said in fact it was a good contract. Despite that, the Washington Post at this late date has been able to make all that I think scandalous type of writing implying that somebody did something evil. I want to clarify that, because leaving your statement that we had to pay 85 percent sounded like that was something real bad, but that is in the contract, and the only criticism we ever had of that contract from the media, or from anybody else that I know of, including Mr. Gordon Rule and other people. They all said it ought to be 100 percent cost plus, and they tried to make a scandal out of it, and it wasn't.

Mr. **Dougherty**. My point is, I am not in any way inferring any kind of scandalous situation at Electric Boat.

Mr. **Bennett**. I know you are not.

Mr. **Dougherty**. I am not inferring the men at Electric Boat don't do quality work. The point I am getting at is in this year when we know there is going to be an assault made on the defense budget, we have a previous track record of problems in delivering the Trident that were before this committee last year, that the Navy is asking for two Tridents this year. When you combine that with my ongoing concern that we are not addressing the problem of amphibious lift, I think seriously we have to question whether we can go with the second Trident. That is the direction I am taking and I thank you for your courtesy.

Mr. **Sawyer**. I would like to make one statement to clarify the record. We will have, of course, that confirmed when we get back to the numbers. To my recollection, the Navy paid nothing to Electric Boat with regard to the particular issue of defective welding or steel on the Tridents. We negotiated a change in the contract and the numbers there represent the change, but there were a lot of issues that were not, I don't believe, specified as contract relating to that point.

In other words, there were reasons for the delay, some of which were our fault, our responsibility. So it was all resolved into a contract negotiation for a change, but I do not believe that change defined at any point in time labor for correction of defective steel or defective welding. Actually the Trident was not that much impacted by that problem. It was more the 688's. Of course, we did not pay a dime on the 688's.

Mr. **Bennett**. Whatever that was, the editorial criticism we had of that contract was that it ought to have been a cost plus instead of one that held them to some sort of diminution on the theory that, as I understand it, that since it was an early production, it ought to have been more of a sharing thing on the part of the Government, as I understand the theory. Congress never drew the contract.

Admiral **Fowler**. At that time, there were very strongly held opinions by very capable men with many years of experience in the contracting business that were different and what the paper did was air these views of different men.

Mr. **Bennett**. I want to say they were all good men, including Gordon Rule. He is a fine man.

Admiral **Fowler**. Absolutely. The decision was finally made by proper authority and the proper way to go with the contract that we have today. So it was a proper decision by the Navy to use this kind of contract. If we had this situation arise today, with different individuals involved, we would probably have the same kind of controversy because we have equally as strong views today as we did then. This is inherent in our business.

Mr. **Bennett**. I have taken too much time.

The next gentleman is Mr. Dyson.

Mr. **Dyson**. Secretary Sawyer, Admiral Fowler, if we can move to another shipyard, one closer to home for me, it is Bethlehem-Sparrows Point. I am sure you are both aware that the Maryland delegation invited the Secretary of the Navy to Bethlehem about a week and a half ago. Of course, the concern there—I think it is almost best summed up by what Admiral Fowler has said on page 41 of his testimony: "currently 26 private shipyards in the United States which are built or have built and maintained ships for the Navy and Merchant Fleet. Of these 26, there are 12 major shipyards so categorized because of their overall capability from the standpoint of work force size and facilities," as shown on your chart.

"Due to the relatively low level of Navy and commercial shipbuilding over the past several years, some of these major shipyards have been reduced to minimal workloads." Then they go on. That is about the situation that is occurring right now at Sparrows Point, and primarily because Sparrows Point I guess in the past had always been more accommodating to the commercial rather than the Navy.

It is my understanding though that in the fast logistic ships there is a conversion program going on right now in the Department, which you will be purchasing, I guess, or you already have purchased container ships from Sealand Industries Inc. for the purpose of converting them to the roll and roll-off type ships. This will all be part of the Navy Sealift Command, which, of course, you are emphasizing right now.

It is also my impression that awards for initial designs have been made to multiple shipyards and Sparrows Point is one of them. This yard at Sparrow's Point is in line with others for an intensely competitive bidding process on the SL-7 program. Although I don't think it is going to eliminate the immediate need that Sparrows Point has, which was presented to us and to the Secretary of the Navy that day, the standard work force of about 3,500 is now down to about 1,700. By the end of this summer they are estimating that that work force will be down to 80 individuals.

My question is, relative to the Sparrows Point yard in Baltimore, it has been awarded initial design on the SL-7. What other east coast yards have been awarded this same——

Admiral **Fowler**. The six yards that are competing on this are Avondale in New Orleans, National Steel, teamed with Bethlehem Steel at Sparrows Point, and General Dynamics Quincy teamed with Todd Seattle, and Sun Ship or the new combination yard, the Levingston, which is now called Penn Ship in Philadelphia.

Mr. **Dyson**. If I can ask the same question we asked the Secretary of the Navy. As I indicated, the problems with commercial shipbuilding in a lot of private yards, I wonder if the Navy is looking at maintaining the level of work at Sparrows Point until such time as these potential contracts are awarded? Basically, we are concerned about what is going to tide them over when the two rigs that they have there today are finished and that very capable and skilled work force is gone, if there isn't something to tide them over.

Admiral **Fowler**. As I mentioned earlier, we look continuously at the workload in the yards. We have good access to information from the yards. We have our own statistics on what we are planning to do. We have Bureau of Labor statistics and so forth, and we worry a lot about these yards. We have got 26 yards. As mentioned earlier, there are only about eight shipyards in the major ship construction business. There are more yards than there is work to go around. We are very much concerned about this, but we are not able to satisfy everybody in all instances.

Mr. **Dyson**. But isn't it important—of the major yards, I believe at one time you said 11, I think today in your testimony you say 12, Sparrows Point I believe is part of that—Bethlehem-Sparrows Point is part of the 12, is it not?

Admiral **Fowler**. Yes, sir.

Mr. **Dyson**. My concern of course is the industrial base and what we are doing to preserve that at this time.

Mr. **Sawyer**. Perhaps I might supplement Admiral Fowler's comments.

Mr. Dyson, there simply isn't enough Navy work in terms of new construction and overhaul to go around, and in addition, when we get into the repair and overhaul side, there are a lot of very fine small yards, some of which really are small business people that have been in business for decades. They can address much of the work and have historically. So the issue is a very complex one but it simply boils down to the fact that in terms of new construction and overhaul for the Navy, there is not enough work to support the total shipbuilding base that we have in the United States.

Mr. **Dyson**. If I can ask the indulgence of the Chair. Have either of you been to Sparrows Point?

Admiral **Fowler**. I have been there years ago. It has been quite a while since I have been there.

Mr. **Dyson**. Have you been there recently?

Mr. **Sawyer**. About 5 years ago.

Mr. **Dyson**. I might offer both of you the opportunity to go up again and see the situation there.

Mr. **Sawyer**. Yes, sir.

Mr. **Dyson**. Thank you, Mr. Chairman.

Mr. **Bennett**. Mr. Trible is next.

Mr. **Trible**. I apologize for not being here at the stroke of the hour.

Mr. **Bennett**. Better late than not at all. You are a very valuable member of this committee.

Mr. **Trible**. I understand Mr. Spence may have some additional questions. Could I yield to him?

Mr. **Bennett**. Yes, sir.

Mr. **Spence**. Mr. Hartnett couldn't be here. He has some questions he would like to have answered for the record, if I could.

Admiral **Fowler**. Yes, sir.

Mr. **Spence**. Getting back to our ship system engineering standards, and I understand you have made some conclusions on incorporating this into DDG-511. What if we gave you some R. & D. funds in fiscal year 1983 to go a little bit further on a midsized combatant, as you indicated, and require detailed design and testing of a midsized combatant utilizing this concept. Would you object to that?

Admiral **Fowler**. Well, Mr. Spence, I never object to anything this committee does. We are proposing, of course, to utilize the output of the DDG-51 or the output of the SSES program to incorporate these ideas in the DDG-51. We are in sort of that awkward stage of life because the output of that program that is going to be useful is coming along during this current calendar year, mostly later on in the year, will be incorporated in the preliminary design of DDG-51 as a notational midsize ship.

In order to develop the standards and engineering work we want, we have developed this thing called midsized combatant. It is really not a ship that Navy ever planned to design. It was merely a notional thing in order to apply the standards. My present intention is to apply the standards to the DDG-51. If we were to sit down with all the people who have reviewed the DDG-51, and particularly the operators of the Navy, I wouldn't be at all surprised but what the midsized combatant would look like the DDG-51, because we would arrive at the same conclusions.

Mr. **Bennett**. Mr. Spence, you are out of your time. I yield to Mr. Trible. I have a surprise for you. You are not in your time and on your own.

Mr. **Spence**. I yield to Mr. Trible, because I have to step out for a minute.

Mr. **Trible**. Thank you, Mr. Spence.

Gentlemen, welcome. The topic of conversation today is Navy shipbuilding and shipyards and I have an interest in a shipyard, as you know, both a national interest and a parochial interest.

The shipbuilding industry is in decline, and given the lack of commercial opportunities, the only game in town is naval ship construction. Unfortunately, there is more of that about today. But, Secretary Sawyer, have you focused on the shipbuilding base and the decline of that base? Could you share some thoughts today about what we need in the way of shipyards and how we are going to go about protecting that huge public investment?

Mr. **Sawyer**. Sir, as I indicated to Congressman Dyson, our review of the situation, of course, yields the obvious. The base is larger than our naval construction program and overhaul repair and I want to be sure to emphasize that because there is a tendency to sort of forget that part of the support. We review the numbers, I would say at Admiral Fowler's level and my level, every month and just have in recent times.

There is no question that the drying up of the commercial work in particular—I might add not just the deep draft merchant ships—are because of construction differential subsidies. But the bread and butter work—dredges, barges, small projects that affect small yards in the Great Lakes, on the rivers, and in the gulf—this work is drying up because of title XI.

Mr. **Trible**. What are we going to do about it? We know the problem. The problem has been studied and examined and reexamined.

Mr. **Sawyer**. Again, I can only speak for myself from the Navy side. We are trying to put together, as responsibly as we can, a balanced program which sensibly and with sensitivity is geared to preserving the industrial base as best as we can, again recognizing that our work is not sufficient to keep the whole base operational and indeed, this is why we were getting into comments earlier last week on the so-called strategic mobility program.

I mentioned our convert charter program and building and building charter programs which are really intended to be quick commercial type buys, particularly relevant to the commercial yards that are not now major players in Navy work.

Mr. **Trible**. On the maritime side, you have two problems. You have the problem of shipbuilding and surely the enhanced shipbuilding proposals that you put forward will help there. You also have the problem of shipping. There are not any American flagships out there. We spend billions of dollars to put forward a powerful American presence in the central front of Europe and yet, gentlemen, there is no real way we can supply and resupply those forces. The same holds true for the Middle East.

What programs are you putting forward to breathe some life into the commercial side, the support of an American-flag fleet to supply the forces that this administration is asking us to position in forward locations?

Mr. **Sawyer**. Congressman, this was a subject of considerable testimony in a hearing last week on the strategic mobility.

Mr. **Trible**. Just summarize it, if you would.

Mr. **Sawyer**. Basically, again I would say the main thrust of those programs that relate to our requirements in Southwest Asia and the Mideast, both in terms of initial readiness and in terms of followup sustainability, can be summarized by our near-term positioning fleet, which is mainly a charter program, incidentally, using U.S.-flag, U.S.-owned ships, the enhanced program for which we are now trying to get approval for additional funds whereby we can charter out three more ships for that fleet.

Mr. **Trible**. They would be positioned where?

Mr. **Sawyer**. Diego Garcia. As the fleet enlarges, I think we will see that probably disperse somewhat to other areas still in the littoral, so to speak, but not all at Diego Garcia.

The followup program to that is the so-called TAKX or MPS ships, which we hope will be approved as a convert charter program, because this one, again, the reason, the rationale for charters, this feeds directly through U.S. shipping companies, U.S. owners. It is a mechanism by which we help not only shipyards on a commercial buy, but we also help U.S. shipping companies.

I feel very strongly we should not try to develop within the Navy our own merchant marine.

Mr. **Trible**. I think that is important and I would concur. We want to generate for the Navy the combatant ships that are necessary for performing its important mission, but it seems to me that we ought to rely on the merchant marine to provide the support for those forces.

Admiral **Fowler**. I agree.

Mr. **Bennett**. Mr. Dougherty.

Mr. **Dougherty**. Thank you, Mr. Chairman.

Admiral, the *Iowa* is the battleship this year that has been brought out or is being brought out?

Admiral **Fowler**. Yes, sir.

Mr. **Dougherty**. Will Penn Ship be on the list of bidders for the *Iowa*, the overhaul of the *Iowa*?

Admiral **Fowler**. Yes, sir, I think so. They have got the request for proposals that went out last week and I would expect that they would respond to that.

Mr. **Dougherty**. I did not see them on the list of yards that you submitted last week as probably places for overhaul, so, if you could reaffirm that to me, I would appreciate that.

Admiral **Fowler**. Be pleased to do that.

Mr. **Dougherty**. Is the *Wisconsin* the next ship coming out?

Admiral **Fowler**. Probably the *Missouri* on the west coast and then followed by the *Wisconsin* on the east coast.

Mr. **Dougherty**. What is the possibility that the *Wisconsin* would go to a public yard when it would be brought out?

Admiral **Fowler**. I think it would be more likely to go to the private yard, but we really haven't considered that yet. We were too busy working on the *New Jersey* and *Iowa*.

Mr. **Dougherty**. What is our estimate on the cost of towing the *Iowa* to whatever yard it is going to go to and is that considered part of the bid price?

Admiral **Fowler**. Normally we include it. I don't know the specifics in this case, whether we did or not.

Mr. **Dougherty**. Again, would you submit that for the record?

Admiral **Fowler**. Yes sir.

[The following information was received for the record:]

COST TO TOW IOWA TO SHIPYARD

The estimate for tow preparation and tow of *Iowa* to the reactivation shipyard is three hundred thousand dollars and is included in the reactivation budget. Since it is intended to use fleet assets for the tow, the bid price will not include cost for towing.

Mr. **Dougherty**. If we are going to spend $100,000 to tow the *Iowa* down to the gulf to have it overhauled, that ought to be considered a cost of the overhaul.

Admiral **Fowler**. Yes sir.

Mr. **Dougherty**. If they could do it cheaper someplace else, like some parochial interest I may have, you may find it more financially responsible for the Navy to keep it as close to home, particularly on the basis of the principle of homeporting, since I believe the *Iowa* is in the Reserve Fleet and it is homeported in Philadelphia. Since the Navy is big and having overhauls done at yards closest to the homeport of the vessel, it would seem to me there is a lot to be said for keeping the *Iowa* in the Delaware River someplace.

Admiral **Fowler**. Yes sir.

Mr. **Dougherty**. She is homeported in Philadelphia and Sun Ship is right down the river.

Do we have any memorandum of understanding with Japan for either the overhaul or the purchase of significant weapon systems or items for naval vessels in the United States?

Admiral FOWLER. None that I am aware of. However, there is always that remote possibility there is one somewhere that I don't know about.

Mr. DOUGHERTY. We do not deal directly with Japan. I am aware of a memorandum of understanding with Great Britain which results in fin stabilizers for the DDG that could be given to an American contractor.

Admiral FOWLER. Well, there is none of the kind you describe with Japan that I am aware of.

Mr. DOUGHERTY. Could I get a list—I don't want to see them all—give me a list of all memorandums of understanding that the U.S. Navy currently has with foreign nations?

Admiral FOWLER. We plan to follow the statutory limitations and those limitation acquisitions, as you know, includes the Byrnes amendment and Buy American Act.

Mr. DOUGHERTY. I used to believe in the Buy American Act until last year we had memorandums of understanding which completely negated the Buy American Act. I am a little upset about that because somebody passed out something that tanks are going to be made in Japan rather than buying them from the United States.

Admiral FOWLER. I could submit a longer statement for the record covering this matter in detail. The agreement reached in the Tokyo Round is 96-39.

Mr. DOUGHERTY. If you could give me a list. I would like to know what we are dealing with overseas.

[The following information was received for the record:]

BYRNES-TOLLEFSON AMENDMENTS

The statutory limitations of the acquisition of all or part of United States naval vessels includes the Byrnes and Tollefson Amendments to the Department of Defense (DOD) Appropriations Act, the Buy American Act, the International Security Assistance and Arms Export Control Act, and the Atomic Energy Act of 1954.

The most significant restrictions on foreign procedures are the Byrnes and Tollefson Amendments. Byrnes-Tollefson prohibits the use of any shipbuilding and Conversion-Navy (SCN) funds for the construction of a naval vessel or the purchase of major components in a foreign shipyard. The Amendments have been included in every DOD Appropriations Act since their initial appearance.

The Tollefson Amendment, which first appeared in the DOD Appropriations Act of 1965, restricts the use of SCN funds as follows:

Provided, that none of the funds herein provided for the construction or conversion of any naval vessel to be constructed in shipyards in the United States shall be expended in foreign shipyards for the construction of major components of the hull or superstructure of such vessel * * *

The Tollefson Amendment was supposed to affect only the construction of a substantial part of a vessel in a foreign shipyard and transporting the part to the United States for incorporation into a vessel being constructed in a shipyard here. Although the term "major component" is not defined in the statute, legislative history and General Accounting Office (GAO) decision indicate that if the value of the component is 10 percent or more of the cost of the vessel, the component will be considered "major" for purposes of the prohibition.

The Byrnes Amendment was first incorporated into the DOD Appropriations Act of 1968. This Amendment extended the restriction on the use of SCN funds as follows:

Provided further, none of the funds herein provided shall be used for the construction of any naval vessel in foreign shipyards.

The term "naval vessel" is not defined in the Amendment. However, the legislative history makes it clear that the Amendment would prohibit the use of SCN funds for construction of an entire vessel or major components of the hull or superstructure. The legislative history of the Byrnes and Tollefson Amendments indicates that they were designed to protect the national security interest of the United

States by prohibiting the procurement of foreign vessels or the major components of vessels abroad. The Amendments sought to ensure American readiness in the event of national emergency. They also sought to maintain a high level of shipbuilding expertise in the United States and to prevent dependence on shipbuilding abroad.

The Buy American Act provides that only domestic end products shall be acquired for public use unless it is determined by the head of a department to be contrary to the public interest or too costly. The Act is implemented in the Executive Departments by Executive Order 10582 (19 Federal Register 8703 1954) and provides that material will be considered of foreign origin.

"If the cost of the foreign products used in such material constitutes fifty percentum or more of the cost of all products used in such material."

The Executive Order also provides formulae to determine whether the bid price of domestic origin items should be considered unreasonable.

The provisions of the Buy American Act can be waived by the Secretary concerned. The Act would most likely be waived if it is determined that it is in the national interest to buy from a foreign concern.

The International Security Assistance and Arms Export Control Act provides the procedures for the import and export of defense articles and services. Items and services which are listed on the United States Munitions List may not be exported without obtaining a license for the export of major defense equipment of $35 million or more except to NATO members, Australia, Japan and New Zealand. The license requirements do not apply to any agency of the United States Government where no private concern is involved in any aspect of the transaction.

Another group of issues is presented by the transfer of nuclear technology. The Atomic Energy Act of 1954 (as amended by the Nuclear Non Proliferation Act of 1978) implemented the Treaty of the Non Proliferation of Nuclear Weapons which set strict safeguards in the export of nuclear technology. The Act provides conditions as to how when, and to whom nuclear materials, equipment and technology may be exported.

The Atomic Energy Act permits the President to authorize the Atomic Energy Commission to cooperate with other nations in the exchange of Restricted Data. Such data may be provided, however, only in accordance with specific statutory procedures and presidential approval. In addition, the act provides restrictions on the export of technology or information relating to "explosive nuclear devices" to nonnuclear countries. Finally, the Act contains various security regulations applicable to the transfer of nuclear technology.

As I have stated, the buy American Act would normally prohibit the purchase of ships and major components overseas. However, it has been the policy of the United States in recent years to encurage reciprocal agreements among nations on cooperation in the acquisition of foreign source items. This policy is exemplified by the participation of the United States in the Tokyo Round Multilateral Trade Negotiations under the auspices of the General Agreement on Tariffs and Trade. The agreements reached as a result of the Tokyo Round were implemented by the Trade Agreement Act of 1979, Public Law 96-39. Most notably, Title III of the Act, "Government Procurement," implements the Multilateral Trade Agreement on Government Procurement. Section III, as stated in the Senate Report on the Act, "would enable the President to waive those portions of U.S. law, most notably the Buy American Act, which discriminate against purchases of foreign goods by Federal government agencies." The Section would further encourage the purpose of the Agreement and Act by requiring that the President bar Federal procurement from certain foreign countries, including major industrial countries which are not parties to the Agreement. Procurement could continue, however, with countries which have a reciprocal procurement agreement with the Department of Defense. Countries which were parties to the agreement and which also have a reciprocal procurement agreement with the Department of Defense include the NATO countries of the United Kingdom, Norway, the Netherlands, Federal Republic of Germany, Italy, Belgium and Denmark. (The Agreement does not currently apply to the acquisition of arms, ammunition, war materials, and purchases indispensable for national security or national defense purchases, nor does it affect requirements in the Defense Department Appropriations Act such as restrictions on the purchase of specialty metals and ship components.)

Even prior to implementation of the Multilateral Trade Negotiation Agreement on Government Procurement, NATO countries such as the United Kingdom have been working towards greater cooperation and elimination of barriers with respect to purchases of supplies from each other. The policy of DOD in this regard has been as stated in the Defense Acquisition Regulations (DAR 6-1401), "to seek the best possible coordination of the material programs between the participating countries and the United States and to ensure that sources from participating countries are provided every opportunity to compete on a fair and equal basis with U.S. sources for research and development and for production contracts. . ." In 1975, for example, then-Secretary of Defense James Schlesinger signed a Memorandum of Understanding between the U.S. and U.K. The Memorandum of Understanding (M.O.U.) sets forth the guiding principles that would govern mutual cooperation in the production and the acquisition of defense equipment. In general, it was agreed that the two governments would cooperate as much as practical in order to assure an equitable and long term balance in reciprocal purchases of defense equipment. Appropriate guidance and procedures would be provided within each country's defense organization to assure that those organizations would meet the objectives of the M.O.U. Particular systems which may meet the defense needs of each country were to be identified. Offers were to be evaluated without application of Buy National laws or evaluation of cost of import duties. Annexes added to the M.O.U. have expanded or clarified the provisions of the M.O.U. Annex 1, which was signed in April of 1976, set forth implementation procedures for carrying out the M.O.U. Annex II, which was signed in October of 1978, provided for mutual acceptance of each country's test and evaluation of defense equipment. Annex III, signed in 1979, provided for reciprocity in handling of audits of contracts and subcontracts. In addition, then Secretary of Defense Donald Rumsfelt signed a Determination and Finding in November of 1976 which waived application of the Buy American Act to "all items of U.K. produced or manufactured Defense equipment other than those which have been excluded from consideration under the M.O.U. . . ."

In conclusion, it can be said that the provisions of the Trade Agreements Act of 1979 applicable to Government Procurement and M.O.U.'s and various agreements between the U.S. and other countries including NATO countries would require that offers of defense equipment from such countries be considered and evaluated on an equal footing with offers from domestic concerns.

Historically, we have rarely had ships constructed or converted in foreign shipyards. The most recent cases were two programs authorized in the mid-1960's, with 5 ships constructed in the United Kingdom, and delivered in the early 1970's. The TAGS 29 and 32, oceanographic ships and the ATS 1, 2 and 3 salvage and rescue ships, were built by British shipyards. These ships were part of a Balance of Payment agreement for planned British procurement of F-111 aircraft. (That British procurement did not materialize.) These programs were both authorized prior to the first inclusion of the Byrnes Amendment in the DOD Appropriations Act in 1968.

With one exception, we have not had major structural components built in foreign shipyards in recent history. The one exception is mid-body sections of the fleet oilers, AO-106 and 109. These mid-bodies were constructed in Japan for the ships which were jumboized at Lockheed in the early 60's. The oilers were originally built in the mid-1940's. The most significant components we have purchased from foreign countries in support of recent shipbuilding programs have been bow dome structures we purchased from a Canadian company, Davies Shipbuilding Co., for the DD-963's, DD-993's and the CG-47, as well as propulsion shafts for the first 9 ships of the DD-963 Class from Sweden. We have also purchased full cylinder structures for some of the SSN 637 and SSN 688 Class submarines from Canadian-Vickers. All of these purchases were clearly not of the category of a "major component" as cited in the Tollefson Amendment.

It also appears that we would have little reason to construct or convert naval ships in foreign shipyards. The U.S. private shipbuilding industries, based on past performance and the workload levels projected for the expanded program, can accommodate this growth without reliance on foreign sources.

We recognize that there are very capable foreign shipyards, with demonstrated productivity and manufacturing technology quite competitive with (and in some cases surpassing) those of the United States shipyards.

Mr. **Sawyer**. Could I interject with regard to the host ships. This is the SCN account program. No question we would plan to convert those ships in the United States.

Mr. **Dougherty**. Let's talk about an area we haven't talked about—naval guns. If we are going with the Marine Corps and have amphibious forces and have amphibious lift and are going to still talk about seizing the high ground and that bit, where in your 5-year plan are you addressing the problem that a grunt Marine is also concerned about, and that is where are we going to get our naval guns?

Mr. SAWYER. The four battleships are a pretty good signal. Those are large caliber guns on the ships.

Mr. DOUGHERTY. Except you are going to replace some of those guns with missiles?

Admiral FOWLER. Not the 16 inch, and we are keeping six of the 5-inch mounts.

Mr. SAWYER. The primary batteries of the ships will not be changed.

Mr. DOUGHERTY. We are losing the ability of destroyers to fill their traditional role as being the prime naval gunfire ship?

Mr. SAWYER. Our plans were to put a 5-inch gun on the DDG-51 whereas the original design, as I recall one of the original concepts, was an all-missile ship. The current ship does have a gun forward.

Mr. DOUGHERTY. So the DDG-51 will have a 5-inch gun on it?

Mr. SAWYER. Yes sir, current design.

Mr. DOUGHERTY. Thank you.

Mr. BENNETT. Mr. Trible.

Mr. TRIBLE. Just a couple more questions.

Gentlemen, I know there have been questions propounded about the two carriers. I have a very special interest in those two carriers and I am pleased that the debate is whether we should have one or two, rather than one or no carrier. We have come some distance.

Aside from the tactical and strategic importance of those carriers, in terms of the procurement of those carriers, the administration has advanced some good reasons why we should build those two carriers side by side.

Secretary Sawyer, you are, of course, a businessman. Do you consider the financial plan for the building of those two carriers to be sound?

Mr. SAWYER. Yes, sir. As a businessman, there is no question of its soundness. Obviously, it sends a very strong political signal which I think is one of the real issues that has been wrestled with, but the key thing here in realizing the success of the program, is the clear commitment to build two ships because that is what provides the motivation, and of course, the obligational authority that goes with the commitment in terms of procurement that will make the program realizable.

Mr. BENNETT. How much will you save by building them under a join law, getting two at one time? How much do you save in dollars?

Mr. SAWYER. We have estimated, sir, looking at it quite carefully, $754 million. I would say that is a conservative estimate, in my opinion.

Mr. BENNETT. Excuse me for interrupting.

Mr. TRIBLE. That was my next question. Great minds run along the same path.

That figure needs to be documented and I know that both the shipyards and Navy have spent sometime in estimating that savings, but we should have the benefit of that thinking so that as we make the argument for two carriers, that we can intelligently advance that argument.

Mr. **Sawyer**. We have prepared a white paper, sir, which I think it would be most appropriate to introduce into the record.

Mr. **Bennett**. Without objection, it will be put in the record at this point.

[The following information was received for the record:]

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CVN71, CVN72, AND CVN73
NUCLEAR AIRCRAFT CARRIER
MULTISHIP ACQUISITION STRATEGY

ABSTRACT

SECTION I - Business Financial and Technical Aspects of the CVN Multiship Approach

SECTION II - Advantages and Benefits of the Multiship Approach; Navy Perspective

SECTION III - Advantages and Benefits of the Multiship Approach; Newport News Shipbuilding Perspective

SUMMARY

ABSTRACT

The multiship acquisition strategy for CVN71, CVN72 and CVN73 is based upon a requirement for 15 deployable aircraft carrier battle groups as the minimum number necessary to regain our position of maritime superiority. CVN71 (THEODORE ROOSEVELT) is under construction now with a contract delivery date of February 1988. A "traditional" procurement approach for CVN72 and CVN73 would be to contract for one ship at a time in FY 1984 and FY 1986 respectively. This traditional approach would deliver CVN72 and CVN73 in late calendar 1991 and 1993 respectively. By fully funding CVN72 and CVN73 in FY 1983 as a stable two ship commitment, these two ships can be delivered approximately two years earlier than under the traditional approach. The CVN71 has a contract delivery date of February 1988. The contract includes a special incentive target delivery date of December 1986 which is 14 months earlier than the contract delivery date. The CVN72 and CVN73 multiship procurement will provide additional motivation to Newport News Shipbuilding Company to deliver CVN71 in the target delivery timeframe. In addition to these significant improvements in delivery the multiship strategy will save in excess of $750 million for CVN72 and CVN73 when compared to the traditional approach of funding these aircraft carriers individually in separate years. These savings will result from reduced escalation

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from earlier delivery, economic order quantity savings from multiple shipset buys, reduction of startup, setup and other nonrecurring costs, and reduced costs due to improved planning, manpower utilization and productivity. Also of importance, this multiship program will significantly strengthen the shipbuilding industrial base, maintain vendor continuity and reduce production gaps at both the prime and subcontractor levels.

Additional government spending (outlays) in the early years to obtain these earlier deliveries and associated savings is small compared to the outlays under the traditional carrier acquisition approach. This multiship strategy fully supports the policy expressed by both the Congress and the Office of Management and Budget to fully fund major weapons systems.

In summary the CVN71, CVN72, CVN73 multiship acquisition will assure that these three nuclear aircraft carriers will be provided to the Fleet sooner and at less cost to the taxpayer than if funded, contracted for and built in the traditional manner.

SECTION I

BUSINESS, FINANCIAL AND TECHNICAL ASPECTS OF THE CVN MULTISHIP APPROACH

From an acquisition standpoint there are several alternative strategies available to acquire two CVN's. The "traditional" approach would be to acquire CVN72 in FY 1984 with advance funding in FY 1982 and FY 1983, and CVN 73 in FY 1986 with advance funding in FY 1984 and FY 1985. The funding profile and delivery schedule under this traditional approach would be as follows:

Funding ($ millions)

	FY '82	'83	'84	'85	'86	TOTAL
Traditional	475	583	3,056	945	2,965	8,024

Delivery

CVN 72 - October 1991
CVN 73 - October 1993

This traditional profile relies primarily on doing business as usual and therefore provides no guarantee or stable commitment on the part of the Government for anything more than one ship at a time.

On the other hand, the most effective strategy and the one being recommended by the President is to fully fund both ships in FY 1983. This strategy is:

- Aimed at assuring the most economic, efficient and rapid means of obtaining two new CVN assets.
- Based upon a fully funded two ship procurement that has the following advantages:
  - Significantly improved delivery. 22 months earlier delivery for each ship over that attainable under a traditional one ship at a time acquisition strategy. Earlier delivery is made possible by more effective planning, scheduling and facility utilization.
  - Over $750 million savings resulting from:
    - Reduced escalation - approximately $300 million
    - Economic order quantity savings from multiple ship set buys - approximately $250 million.
    - Reduction of startup, setup and other non-recurring costs - approximately $100 million
    - Improved planning, manpower utilization and productivity - approximately $100 million
  - Encourages a stronger industrial base by improving vendor continuity and reducing production gaps at prime and subcontractor level.
- Structured so that required outlays in the early years to obtain these advantages are about the same as in the traditional acquisition strategy. The net increase in outlays in FY 1983 under the multiship approach is about $25 million.

The funding profile and delivery schedule under the multiship approach is as follows:

TOTAL OBLIGATIONAL AUTHORITY

($ millions)

	FY '82	'83	'84	'85	'86	TOTAL
CVN 72/73 Multiship	475	6,795	-	-	-	7,270

Delivery

CVN 72 - December 1989
CVN 73 - December 1991

With respect to outlays, the following shows a comparison of estimated expenditures under both the multiship and the traditional profiles.

Outlay Estimates
($ millions)

	FY '82	'83	'84	'85	'86	'87	TO COMPLETE	TOTAL
Traditional	72	210	422	524	774	1,102	4,920	8,024
CVN 72/73 Multiship	72	235	482	780	929	1,374	3,398	7,270
Difference	-	25	60	256	155	272	(1,522)	(754)

The multiship program has been planned to insure that administrative actions parallel the budget approval process, to insure that the program can be executed as soon as Congressional approval is received. It is based upon satisfying the Congressional policy of full funding and is programmed to assure a clear Congressional consensus on the value of receiving these new CVN assets so much earlier.

The plan of action and milestones for executing this strategy are as follows:

ACTION	MILESTONE	STATUS
Receipt of FY 1982 CVN 72 Nuclear long lead funds ($475 million)	Dec 1981	Actual
Award of CVN 72 Nuclear Long Lead contracts	Jan 1982	Actual

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Request Long Lead Material and fully priced construction proposals from NNS for CVN 72 and CVN 73	Feb 1982
Receipt of Long Lead Material proposals from NNS	May 1982
Congressional Authorization of CVN 72 and 73	Jun 1982
Receipt of the fully priced construction proposals for CVN 72 and CVN 73	Jul 1982
Award Long Lead Material contract (both ships)	Oct 1982
Congressional appropriation (full funding for both ships)	Dec 1982
Award construction contract (fully forward priced for both ships)	Jan 1983

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TECHNICAL ASPECTS

- Construction Schedule

It is believed that the minimum possible delivery interval between CVNs is about two years. Newport News Shipbuilding Company has indicated on several occasions that a 24 month interval could be attained on the CVN 73 but that the minimum delivery interval attainable between CVN 71 and CVN 72 would be 30 months. This is reflected in the data shown in the CVN schedule comparison (Figure 1). The CVN 71, which was authorized in FY 1980 and has a contract delivery date of February 1988, is currently being built to a special incentivized target delivery date of December 1986. If Newport News Shipbuilding achieves this target delivery - which the Navy believes is achievable, particularly with a follow on CVN 72/73 multiship program - then it would be possible for CVN 72 to be delivered as early as June 1989. However the current estimate is that Newport News Shipbuilding Company probably would not contract for delivery of CVN 72 any earlier than December of 1989, even under a multiship program. Assuming an agreed upon contract delivery date of December 1989 for CVN72 this represents a construction interval (keel laying to delivery) of about 60 months, which some studies have shown is close to the optimum construction cycle achievable for a NIMITZ Class nuclear carrier. There is the possibility that under some sort of special incentive CVN72 could conceivably deliver in June 1989 which would have the ship delivery about 30 months after the target delivery of CVN 71. In either case the schedule for delivery of CVN 73 would follow the minimum 24 month interval after delivery of CVN 72.

- **Learning Curve**

  With the CVN 71, CVN 72 and CVN 73 closely following each other in construction, improvements similar to that realized in assembly line production could be achieved. Teams of experienced tradesmen completing work on components and construction of CVN 71 would migrate to CVN 72 and from that ship to CVN 73 achieving optimum use of the workforce and efficient production where setups would be greatly reduced. This situation will result in a decrease in manhours required for construction of CVN 72 and CVN 73 as compared to CVN 71.

- **Workforce**

  Newport News Shipbuilding has over the years experienced fluctuations in workload. As a result, the shipyard has had to lay off personnel as contracts neared completion, and hire and train new personnel as new contracts were awarded. This leads to a dilution of overall skill level and adversely affects productivity and shipbuilding costs. The multiship procurement would stabilize workload with carrier new construction work through 1991 and would tend to increase the average skill level of the workforce, thus increasing productivity. Current total employment in Newport News Shipbuilding Company is 24,500. Navy projections of workload for the shipyard for the period during which CVN 71, CVN 72 and CVN 73 will be constructed and delivered indicate that the shipyard would probably only need to grow by 2,000-3,000 in total employment over the current level. Projections also show that this growth would be gradual and not peak until the 1988 time frame. This is graphically shown in figure 2 which depicts total

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employment projections for Newport News Shipbuilding assuming a CVN72/73 multiship program in FY 1983. Figure 3 shows the total employment projection under an annual or traditional CVN profile assuming CVN72 as a FY1984 ship and CVN73 as a FY [illegible] ship. The business base used in both these charts is the same and includes current new construction and repair work under contract as well as a projection of the business base for the next decade. Therefore the only variable explaining the difference between the wide employment fluctuations in Figure 3 and the smoother, more stable employment profile in figure 2 is the difference between building CVN72 and CVN73 one at a time (figure 2) or under a multiship program (figure 3). Obviously the comparison suggests that the multiship profile significantly stabilizes employment, and stabilization and continuity of the workforce — would enhance management opportunity for improved economy and efficiency.

o Facilities Improvements

With firm contracts for three NIMITZ Class aircraft carriers, there would be justification for Newport News Shipbuilding Company to further improve their facilities and amortize the cost over a number of years. Some areas of improvement might be:

- Construction of covered platen areas to permit outside work to continue during inclement weather.
- Construction of an environmentally controlled blasting painting facility to handle large hull units and enable painting to occur without being affected by outside temperature and humidity conditions.

These improvements would lead to increased productivity and a reduction in production manhours for ship construction.

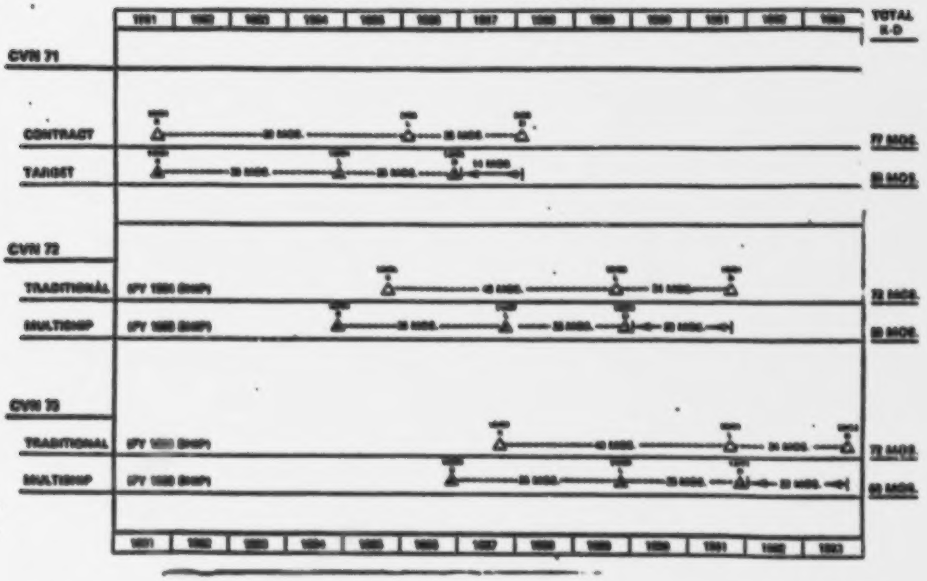
o Improved Production Methods

An example of how improved production methods can increase productivity can be found by comparing the CVN70 erection progress with that of the CVN71. Fourteen weeks after keel laying the CVN70, which was constructed in dry dock #11, had 675 tons of hull structure erected. The CVN71 in the same period of time in the new dry dock #12 had 6300 tons assembled and erected. (This comparison is graphically shown in figures 4 and 5). This significant improvement was due to the fabrication of structural sub-assemblies in a new steel production facility, the joining of these sub-assemblies on new platen work stations to form very large structural units and the use of the heavy lift (900 ton) Gantry crane, which spans both the dry dock #12 and the work stations, to handle the larger units. Also shown in these figures is a comparison of the production manhours expended on CVN70 and CVN71 over the 14 weeks following keel laying. The significant increase in CVN71 manhours expended as compared to those expended on CVN70 during the same time period is a strong indication of the commitment that Newport News Shipbuilding Company is making to improve the structural and preoutfitting production processes. These new production methods are also having a positive effect on productivity.

Figures 6 and 7 provide examples of the size of inner bottom units erected on the previous NIMITZ Class aircraft carriers with that planned and being done for CVN71. Figure 8 describes a super lift for a section of the CVN 71 inner bottom. All of these improvements are in anticipation of the CVN72/73 program gaining approval and are directly related to it.

In the next section of this paper there is a discussion of the savings and other advantages attributable to the multi-ship approach as viewed and estimated by the Navy.

CVN SCHEDULE COMPARISON



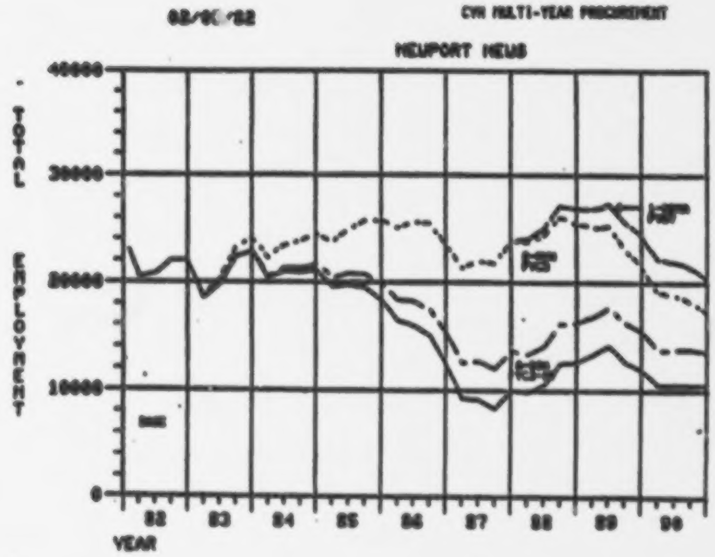


FIGURE 2

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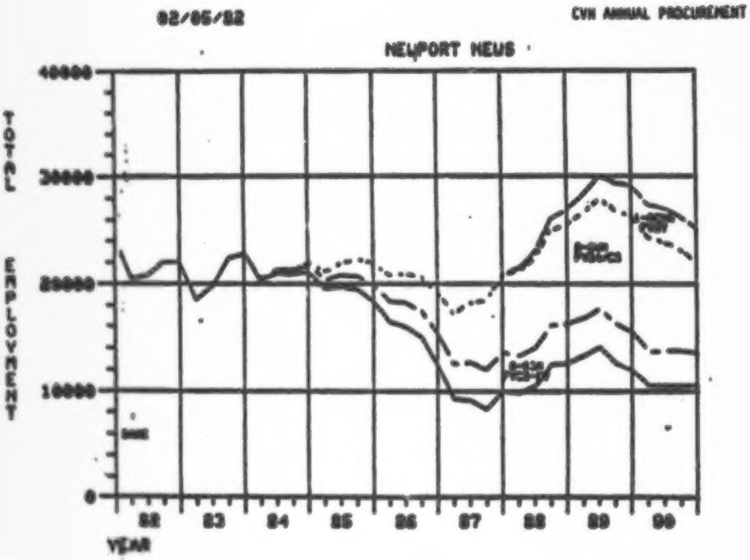

FIGURE 3

CVN 70 INNER BOTTOM
ERECTION PROGRESS 14
WEEKS AFTER KEEL LAYING.

PRODUCTION MANHOURS
EXPENDED DURING THIS SAME
PERIOD = 471,637

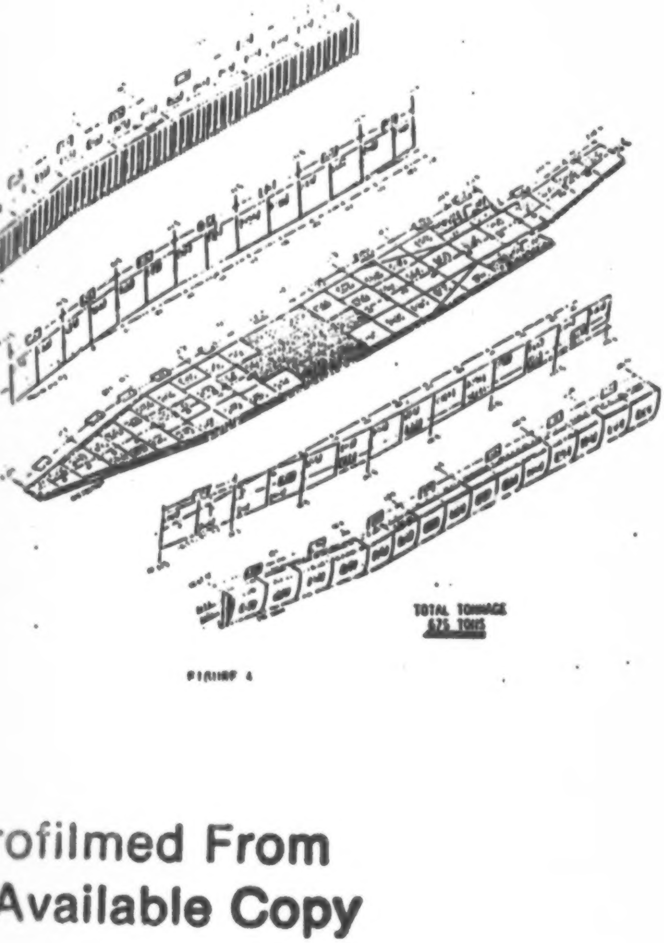
TOTAL TONNAGE
675 TONS

FIGURE 4

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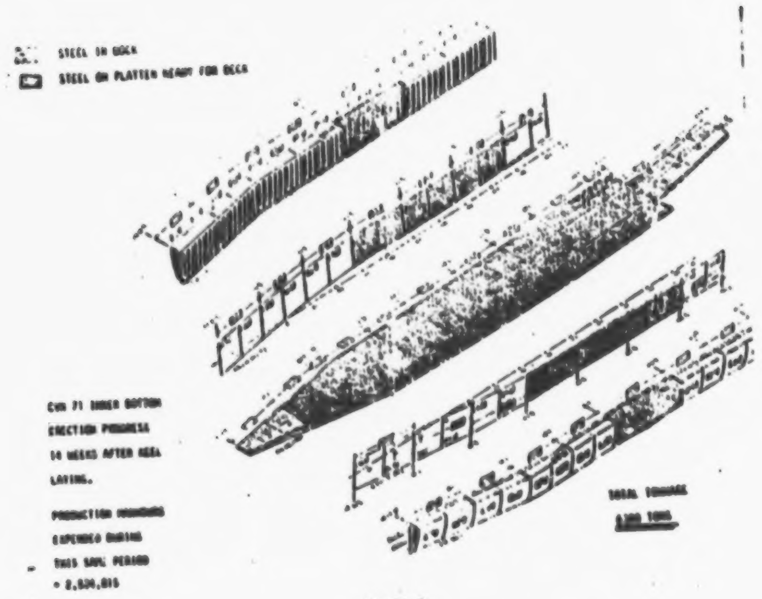
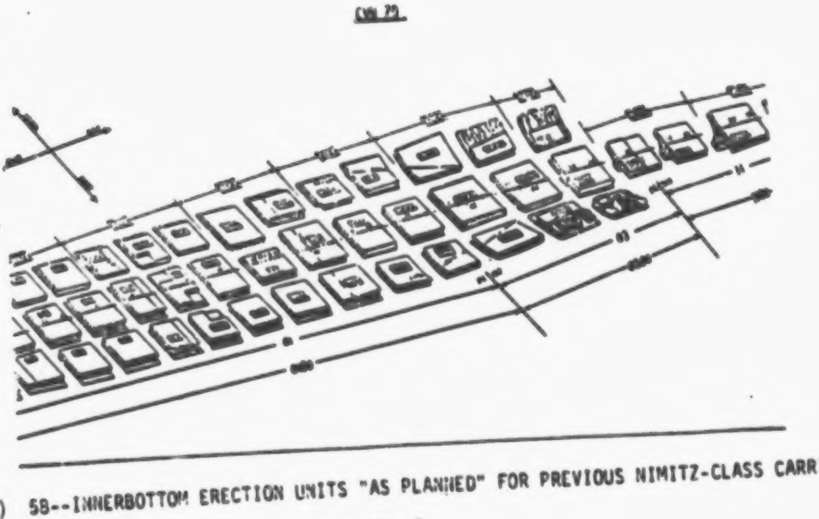

STEEL IN DOCK
STEEL ON PLATTEN READY FOR DOCK
CVN 71 INNER BOTTOM
ERECTION PROGRESS
14 WEEKS AFTER KEEL
LAYING.
PRODUCTION MANHOURS
EXPENDED DURING
THIS SAME PERIOD
TOTAL TONNAGE

FIGURE 5



(15) 58--INNERBOTTOM ERECTION UNITS "AS PLANNED" FOR PREVIOUS NIMITZ-CLASS CARRIERS

Figure 6

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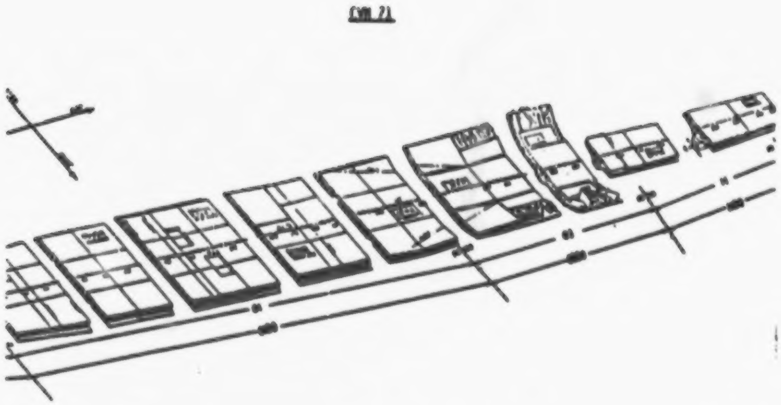
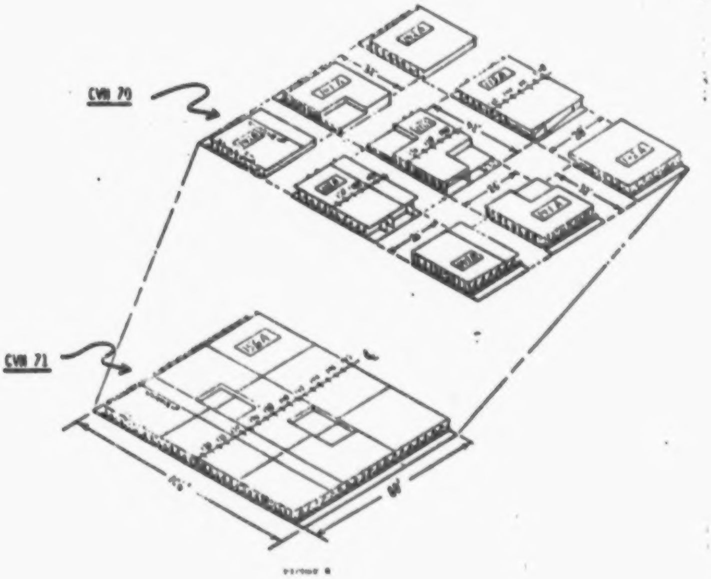


(16) 12--INNERBOTTOM SUPERLIFTS--PARTIALLY PREOUTFITTED "AS PLANNED" FOR ERECTION ON CVN 71

Figure 7


CVN 70
CVN 71

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SECTION II

ADVANTAGES AND BENEFITS OF THE MULTISHIP APPROACH; NAVY PERSPECTIVE [1]

CVN 71

Approval of the multiship program requested in the FY 1983 Budget will enhance the potential for savings on the CVN 71. The contractual delivery date of the CVN-71 is February 1988. The following is a summary of the Navy's estimate of the CVN-71 savings if the December 1986 delivery date is achieved.

	($ Millions)
Contract Escalation Savings (Schedule)	53
Production Man hour and Time Related Cost Savings	42
Subtotal	95
Special Incentive Payment	- 21
Net Savings	74

Earlier delivery of CVN71 and savings are questionable if the CVN72/73 multiship program is not approved. This is because Newport News will have to restructure its business base on which the above estimates have been established. The estimated savings are based on an anticipated 14 month delivery improvement resulting from improved production methods and resulting productivity. The earlier delivery will result in a reduction of time related costs such as taxes, utilities, maintenance, insurance, general ship cleaning, support and temporary services. The $53 million escalation savings due to earlier ship delivery is based on the current contract target cost estimated against the incentive delivery date of December 1986. Production manhour and time related support cost savings for early delivery are based on the CVN-71 Contract Adjustment for Energy Shortage Clause which identified cost increases resulting from delay and disruption due to work stoppage because of a lack of energy. These same cost increases due to energy shortage are also indicative of the time related cost savings to be realized if CVN71 delivers early.

---

[1] All of the cost estimates in this section include allowances provided by OSD for the January 1982 OSD/OMB approved indices.

CVN 72 AND CVN 73

A. The estimated cost savings of two CVN's funded in a multiship buy in FY 1983 over a traditional buy in FY 1984 and FY 1986 are as shown below:

- Reduced escalation due to earlier deliveries-$304 million
- Economic order quantity savings from multiple ship set buys $230 million.
- Reduction of startup, set up other non-recurring and recurring cost $100 million
- Improved planning, manpower utilization and productivity $120 million

The following table shows a comparison of the estimated yearly outlays for both funding profiles presented in Section I.

Outlay Estimates

$ Million

	Traditional	Multiship	Delta
FY 82	72	72	0
FY 83	210	235	+25
FY 84	422	482	+60
FY 85	524	780	+256
FY 86	774	929	+155
FY 87	1102	1374	+272
FY 88	1246	1423	+177
FY 89	1246	1092	-154
FY 90	1115	655	-460
FY 91	785	175	-610
FY 92	354	53	-301
FY 93	112	-	-112
FY 94	62	-	- 62
	8024	7270	-754

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B. The estimated cost savings for the CVN72/73 multiship program of over $750 million are based on the following:

- Reduced contract escalation due to improved shipbuilding schedules.

CVN 72	$147
CVN 73	$157
Total	$304

Contract escalation (economic adjustments for labor and material increased cost during the contract performance period) savings are based on the earlier keel and delivery dates achievable under a multiship buy as shown below.

	Traditional		Multiship	
	CVN-72	CVN-73	CVN-72	CVN-73
Award	Sep 84	Sep 86	Jan 83	Jan 83
Keel	Oct 85	Oct 87	Dec 84	Dec 86
Delivery	Oct 91	Oct 93	Dec 89	Dec 91

These savings were estimated by applying the improved multi-year schedules to the traditional base contract costs to isolate those savings associated with escalation due to improved deliveries.

- Economic order quantity savings from multipleship set buys

Contractor Furnished Material	$ 60
Govrnment Furnished Equipment	$170
Subtotal	$230

Economic order quantity (EOO) savings were separated into both contractor and government furnished material and equipment. Contractor furnished equipment (CFE) savings have been based on the estimates set forth in Newport News CVN-72/73 Long Lead Time Proposal of December 2, 1981. This savings of $60 million on long lead time items for two ship buys is consistent with internal NAVSEA estimates. In order to estimate government furnished equipment (GFE) savings, PARMS for the major GFE systems were solicited. Responses indicated that full funding of CVN72 and CVN73 in FY 1983 will result in significant GFE cost savings. Besides the savings related totally to what is traditionally defined under the EOQ concept there are other areas of significant savings and some offsetting cost increases that result from this procurement approach. Some of these areas are shown below and were taken into consideration in calculating total EOQ savings:

a. Some major items are not normally produced in series. Multiship procurement will permit series production for these items and thus reduce production costs. Savings will result from reduction of recurring engineering and quality assurance efforts, enhanced competition, and improved facilities utilization based on more stable workload.

b. Improved intra-ship standardization of GFE will result in shipbuilding cost savings by reducing the number of ship configuration changes. This improved standardization also results in other cost savings which, although they have not been included since they are not all Ship Construction Navy (SCN) costs, are nonetheless real. These include reduced training, technical manual and spare parts cost; and reduced Navy procurement management workload.

c. Early procurement will require some warehousing costs in Navy owned facilities, maintenance costs for some selected equipments requiring periodic exercising, some increased packaging costs for long term preservation, and increased field change costs for modernization of equipment to the most current configuration.

The total cost of GFE for both CVN72 and CVN73 in the traditional profile is $2,546 million on which a savings of $170 million can be achieved in a multiship buy. This estimate includes savings for earlier procurement which could be allocated to inflation savings, however, they are still directly related to having multiship set funding available and therefore have been allocated to EOQ.

- Reduction of startup, setup, other non-recurring and recurring support costs.

CVN 72	$ 45
CVN 73	$ 55
Total	$100

The reduction of startup, setup, non-recurring and recurring costs fell into three major categories; shipbuilder labor savings, subcontractor and vendor material (CFE) savings and savings of major Government Furnished Equipments (GFE). The EOQ estimate discussed earlier includes the shipbuilders CFE savings in this area as part of EOQ savings.

- Improved planning, manpower utilization and productivity savings

		Manhours (000)
CVN 72	$ 45	1,115
CVN 73	$ 75	1,820
TOTAL	$120	2,935

These savings are based on the production manhour returns of the CVN 68 and CVN 69 which were as follows:

	M (M)
CVN 68	34.3
CVN 69	31.3
Delta	3.0

Adjustments were made to both CVN68 and CVN69 actual return manhours to remove those hours associated with disruption and delay. The result is a 3 percent production improvement for the CVN 69 after all adjustments were made. Based on this a 97 percent unit production improvement curve was applied to the current CVN 71 production manhours to estimate the above savings for CVN 72 and CVN 73. The multiship program will allow the contractor to improve the stabilization of his aircraft carrier workforce and optimize his production planning and scheduling which will lead to production improvement for both ships over the CVN 71.

SECTION III

ADVANTAGES AND BENEFITS OF THE MULTISHIP APPROACH; NEWPORT NEWS SHIPBUILDING PERSPECTIVE

CVN MULTISHIP ACQUISITION

Today, there are twelve active carriers in the Fleet. Soon, this number will be increased to thirteen by the delivery of the CARL VINSON (CVN70) on February 26, 1982. Of the active carriers, both the USS MIDWAY (CV42) and the USS CORAL SEA (CV43) must be retired by 1990. Many of the other carriers active today will require extensive service life extension programs which will preclude fleet availability for periods of 30 to 36 months.

Therefore, the Department of the Defense is seeking, from the Congress, authorization to fully fund CVN72 and CVN73 in FY83. Approval by Congress of this request will afford the Government significant dollar savings, as opposed to the traditional procurement approach; i.e., long-lead funding for CVN72 in FY83 with the balance to be funded in FY84, and long-lead funding for CVN73 in FY85 with the balance to be funded in FY86. These savings will be expanded upon in subsequent sections of this report. However, the most significant aspect of the multiship acquisition, if approved, is a commitment on behalf of the Government to, in fact, procure two aircraft carriers. With such a commitment, the Contractor can accept the risk associated with committing his resources and investing his capital. Further, subcontractors are subject to similar risks. With this commitment, savings will almost immediately be realized by allowing the Navy and the contractor to place orders for two shipsets of components. This affords better price negotiations, increased assurance of "on time" deliveries, as well as provides stabilization of the allied industries from all parts of the country which furnish the many components.

As a result of a commitment on behalf of the Government, coupled with the commitment by Newport News Shipbuilding, the multiship procurement will result in achievable deliveries, used in this study, of December 1989 for CVN72 and December 1991 for CVN73. Potentially, even these deliveries could be improved to as early as June 1989 and June 1991 for CVN72 and CVN73 respectively. By the traditional funding approach, the CVN72 would be delivered in October 1991 and the CVN73 in October 1993. Thus, each of the two aircraft carriers potentially could be delivered to the fleet some 28 months earlier.

Subsequent sections of this paper will address advantages and estimated savings in areas such as Engineering, Production, Overhead, Scheduling, and Contractor Furnished Equipment (CFE). However, it must be emphasized that the savings set forth in this report can only be optimized through FY83 full funding of both the CVN72 and CVN73 resulting in a multiship contract for Long Lead Time Material by October 1982 and a multiship construction contract by January 1983.

Specific categories of potential savings addressed in this report along with the combined estimated savings for both CVN72 and CVN73 are as follows:

	(Millions)
o Time Related Costs	$ 25
o Economic Order Quantity	$ 30
o Start Up, Setup and Other Non-Recurring Costs	$105
o Planning, Personnel Utilization and Productivity	$ 60
o Escalation	$330
TOTAL	$550

ESTIMATED SAVINGS

(Dollars in Millions)

o TIME RELATED COSTS

Many costs associated with ship construction are directly

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related to the length of the construction period. Examples of such cost are fire and security watches which must be maintained on-board ship throughout construction. Also, production work being accomplished aboard ship requires that general ship cleaning, maintenance and temporary material and tool facilities must be maintained. In addition, supervisory costs and indirect costs for items such as property taxes, utilities, facility maintenance, insurance, equipment depreciation, etc. are also directly related to the length of the construction period.

FY83 funding of the CVN72 and CVN73 would provide for faster construction and earlier deliveries. The estimated time related savings as a direct result of delivering each of these ships 22 months earlier than the traditional method of construction is shown as follows:

	Potential Savings
CVN72	$11
CVN73	14
Total	$25

- ECONOMIC ORDER QUANTITY

Under the traditional method of funding for CVN's, separate inquires and purchase orders for subcontractor furnished equipment are processed for each ship. Since the contracts are normally awarded several years apart, the subcontractor has no assurance that an order for a second shipset will be received and therefore cannot include this possibility in his advanced planning. Multiship contracting would allow ordering of at least two shipsets of equipment on each purchase order. As a result, the subcontractors would experience lower cost through elimination of non-recurring cost, setup costs, earlier manufacture of units at lower rates and improved planning, manpower utilization and improved productivity. These lower vendor costs would then be passed on to the Contractor by lower equipment prices.

Newport News Shipbuilding's analysis of previous multiship vendor quotations indicate the savings to the Navy as a result

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of multiship procurement of subcontractor furnished materials is estimated to be approximately 5% of the current price of CVN71 invoice material for each ship. However, added cost will be experienced due to the stowage and maintenance of some of this material. Therefore, for the purpose of this study, the company assumed the net savings will range between 3-4% and is shown as follows:

	Potential Savings
CVN72	$14
CVN73	16
TOTAL	$30

o STARTUP, SETUP AND OTHER NON-RECURRING COSTS

Certain single ship costs would either be eliminated or significantly reduced on follow ships as a result of multiship contracting. Specific areas addressed are:

oo Engineering and Reproduction - By the traditional method of funding, separate issues of drawings, test procedures, material grouping sheets, etc. are made for each ship. This causes engineering extra work in documenting applicability to the second ship and reissuing this software. In addition, with traditional funding, technical evaluation of purchase orders and vendor drawings are processed separately for each ship. Multiship funding for CVN72 and CVN73 would allow substantial engineering cost savings by allowing initial issue of purchase orders, drawings, test procedures, material grouping sheets, etc. to be made applicable to both ships. The two ship procurement will result in increased vendor commonality and reduced engineering costs.

Cost would further be avoided in reproduction due to the single issue of drawings, purchase orders and many other documents. Savings would also be realized because many of the engineering computer functions would have to be performed only once. Utilizing the current status together with anticipated engineering costs for CVN71, an analysis was performed to determine potential non-recurring costs. The result is that approximately 20% of the CVN71 engineering costs would be saved on CVN72 with additional savings of approximately 18% between CVN72 and CVN73.

oo Other Non-Recurring Costs - Under the traditional method of contracting, molds, patterns, forms, special staging and jigs are either destroyed or placed in long term storage upon completion of their known usefulness. As a result, may of these items must either be rebuilt or undergo extensive repairs before being used on subsequently contracted follow ships. Cost savings would be realized on a multiship contract due to re-use with minimal replacement and/or repair of these items. Also, certain planning functions are repeatedly performed on each of the ships when built under the traditional method. This would be minimized by a multiship contract. Other areas, such as welder requalifications and training of test engineers and other key personnel would also be significantly reduced. It is estimated that approximately 14% of the manhours expected to be incurred on CVN71 for the above described items would be eliminated on follow ships.

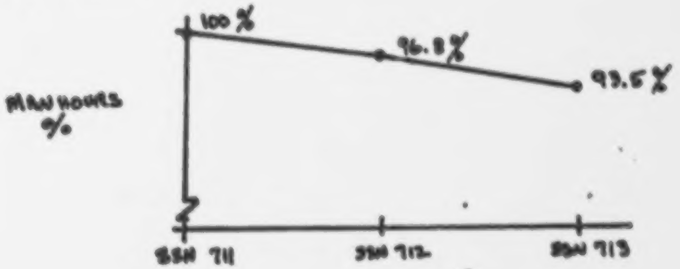
The estimated potential savings due to reduction of startup, setup and other non-recurring costs similar to those identified in the two areas addressed above is as follows:

	Potential Savings
CVN72	$ 42
CVN73	63
TOTAL	$105

o PLANNING, PERSONNEL UTILIZATION AND PRODUCTIVITY

Aircraft carriers since World War II have never been funded or constructed in a manner which allows the savings achievable from more effective planning, personnel utilization and improved productivity that can result from multiship contracting. Therefore, no meaningful historical base exists which can be used to determine these potential savings. However, data is available on multiship construction of other types of ships that can be used to develop reasonable and sound estimates for this advantageous approach to construction.

An example is the multiship construction of the SSN submarines. Newport News is experiencing and projecting less manhours for follow-on ships of the same contract. This reduction is generally achieved through more effective planning and having a continuation of the work force dedicated solely to the submarine program. The following graph depicts the anticipated reduction of total manhours (excluding engineering) for the first three submarines of the second flight awarded to Newport News Shipbuilding and indicates an improvement for each of the two follow submarines.



The North Yard Facility, where the CVN's would be constructed, offers certain built-in advantages associated with series type production. An example of these advantages is improved utilization of the 11 acre Steel Production Facility (SPF). An aircraft carrier, such as CVN71, exhibits a bell-shaped manning curve over its production cycle in the SPF. The result is that overall utilization of the facility during one carrier production cycle is 50% or less. The ability to sequence follow-on carrier work through the facility, overlapping the prior carrier, tends to continue the peak production utilization of the facility resulting in improved performance. The same case can be made for the dry dock, platen, manufacturing and outfitting shops as well as support equipment and personnel. Furthermore, current investment planning which is predicated upon a series production commitment by the Government will provide improvements to the

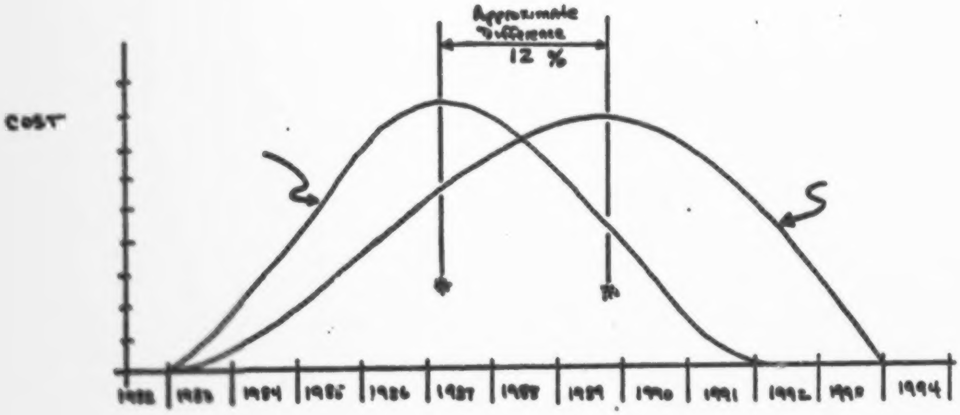
North Yard facility that enhance these advantages not only for CVN71, CVN72, and CVN73 but for potential future Navy construction programs as well.

The estimated savings due to this anticipated reduction in production manhours on follow ships is as follows:

	Potential Savings
CVN72	$18
CVN73	42
TOTAL	$60

- **ESCALATION**

Procurement of CVN's on a multiship contract will result in earlier ship deliveries. This fact alone provides the biggest potential savings set forth in this report. It is a safe assumption that inflation will continue; therefore, earlier construction time frames will result in the Government paying less escalation. A comparison of time phased costs to the assumed different construction periods are graphically displayed as follows:



As can be seen from the above graph, the costs of multiship funding will be incurred in an earlier time period and therefore will experience less increase due to inflation. Consistent with current Government practice, Newport News Shipbuilding used

OSD/OMB projected escalation indices for Naval Shipbuilding in the calculation of savings shown here. Considering the variations of projected inflation rates, Newport News Shipbuilding believes that this is a conservative approach. Thus, if higher inflation rates occur, additional savings will be realized.

Using January 1982 as the base and the stated projected indices, estimated savings due to the earlier delivery dates is as follows:

Ship Deliveries

	Traditional	MultiShip	Potential Savings
CVN72	10/91	12/89	$156
CVN73	10/93	12/91	174
TOTAL			$330

o SUMMARY

To meet the Navy's objective, CVN's will have to be built both faster and cheaper. This objective is achievable. However, it first requires a commitment on behalf of the Government to simultaneously procure CVN72 and CVN73. With the Government's commitment, the contractor will support the construction of three carriers, fully committing to reserve his facilities, invest necessary capital, and provide the required skills.

SUMMARY

Establishing the need for two additional nuclear aircraft carriers in terms of satisfying Naval mission requirements was not within the scope of this paper. That need has been established by the Secretary of the Navy, confirmed by the Secretary of Defense and supported by the President in the FY 1983 Budget request. Given that the ultimate decision by Congress to proceed with the two CVN program will be made on the basis of the legitimacy of the need, there can be no question about the advantages and benefits that will result from the multiship approach. The importance of delivery to the Fleet of three more nuclear carriers by close to five ship years earlier than would otherwise be possible cannot be over stated. Attempting to put a dollar value on such a thing is impossible. Estimates of the savings related to buying and building these carriers under a multiship approach will differ. The table below shows the savings profiles as described by both the Navy (Section II) and Newport News Shipbuilding (Section III) in this paper.

Potential Savings
($ millions)

	Navy	Newport News
Escalation	$304	$330
Economic Order Qty	230 (CFE & GFE)	30 (CFE only)
Time Related, Startup, set up and other	100	130
Productivity	120	60
TOTAL	$754	$550

As the paper points out, assumptions and factors considered in making these estimates differed. The Navy has its perspective on how it views this program and likewise Newport News has its perspective. Therefore the categorizations and bottom line numbers differ. But the estimates are consistent in their order of magnitude and each are fully supported by sound estimating produres. The estimates were arrived at independently and yet individually complement each other in their conclusion. Furthermore, the estimate of savings by both parties reflect unusually conservative assumptions and as a result should reflect minimum savings. No one can say with certainty what the actual savings will be. Both the Navy and Newport News Shipbuilding believe and can support estimates in the order of $750 million or more. From the Navy's standpoint we are for the first time in the history of nuclear carrier acquisition on the verge of contracting for construction of these ships in the smartest way possible. To reap the advantages requires a firm commitment for a stable two ship program. With such a commitment the objective of attaining these ships faster and at significantly less cost is achievable.

Mr. Trible. How about the time savings?

Mr. Sawyer. Our time savings estimates run, again conservatively, 22 months per ship. This is where the real savings are, the nonquantifiable impact of bringing a ship of this potential out 22 months early. Frankly, I would say with 73 it would not surprise me at all if they couldn't save 2 years—24 months.

Mr. Trible. So that is, obviously, as important, perhaps more important than the cost savings themselves?

Mr. Sawyer. Yes, sir.

Mr. Trible. Can you provide the documentation for that as well?

Mr. Sawyer. That would be in the white paper also, sir.

Admiral Fowler. I mentioned in my opening statement I thought this was the most important innovation that we have in the 5-year shipbuilding program and I think the most important action of the Congress is to make to fill an unqualified commitment, because if we do not have that, we are not likely to realize the full benefit of these very substantial savings and we need to recognize it has to be a full and unqualified commitment, and not one where the funds get meted out. Otherwise, we really won't get those savings. It just seems to me this is such a good idea that it will carry its merit.

Mr. Trible. Thank you.

Now, in terms of the short-term budget impact, as I understand it, the full authorization and appropriation of these funds would have a very minimal impact on the fiscal year 1983 budget. We are talking about hundreds of thousands of dollars as opposed to millions or billions.

Do we know the precise payout in the next fiscal year?

Mr. Sawyer. We have those.

Admiral Fowler. The difference between the conventional approach and the outlay in 1983 would only be $25 million.

Mr. Trible. $25 million?

Admiral Fowler. Yes, sir. And 1984, only $60 million. I can submit a table.

Mr. Trible. Would you submit that table for the record as well?

Admiral Fowler. Yes, sir.

[The following information was received for the record:]

CVN–72/73 MULTISHIP ACQUISITION OUTLAYS—TRADITIONAL VERSUS MULTISHIP

[In millions of dollars]

	Fiscal year—						To complete	Total
	1982	1983	1984	1985	1986	1987		
Traditional	72	210	422	524	774	1,102	4,920	8,024
Multiship	72	235	482	780	929	1,374	3,398	7,270
Difference		25	60	256	155	272	(1,522)	(754)

Mr. Trible. One final bit of information, which I think would be helpful to us as advocates of this very worthy proposition, would be the flow of dollars as they would go across the country.

Can you break that out for us in terms of who would be involved in this massive project; how much money would go to this subcontractor and that around the country, because the impact of this proposition extends far beyond the waterfront of Virginia. It is persuasive, and I think it is important for us to know where those dollars go, so that we can generate the broad support for this project.

Admiral **Fowler**. We would be happy to, Mr. Trible. I think you will be advised that a small fraction stays in Virgina and how much goes to Pennsylvania and other States around the country.

[The following information was received for the record:]

Approximate Distribution of Expenditures for CVN-68 Class Carrier (GFE and CFE Only)

Based upon the distribution of contracts and subcontracts for *USS Nimitz* (CVN-68), *USS Dwight D. Eisenhower* (CVN-69), *Carl Vinson* (CVN-70) and that expected on CVN-71, it is estimated that about 60 percent of the acquisition cost of a CVN-68-class ship is expended by contractors and subcontractors other than the shipbuilder. A profile of these expenditures by state is shown below:

	Total (CVN-72/73)
Alabama	$3,000,000
Arizona	2,000,000
California	258,500,000
Colorado	200,000
Connecticut	56,300,000
Delaware	850,000
Florida	15,800,000
Georgia	14,400,000
Idaho	23,000
Illinois	63,600,000
Indiana	202,000,000
Iowa	3,000,000
Kansas	15,000
Kentucky	145,000
Louisiana	8,500,000
Maine	120,000
Maryland	182,800,000
Massachusetts	142,600,000
Michigan	34,000,000
Minnesota	34,000,000
Mississippi	1,200,000
Missouri	30,400,000
Nebraska	645,000
Nevada	11,000,000
New Hampshire	3,000,000
New Jersey	100,000,000
New York	401,000,000
North Carolina	8,000,000
Ohio	915,000,000
Oklahoma	4,000,000
Oregon	186,000,000
Pennsylvania	830,000,000
Rhode Island	8,000,000
South Carolina	84,000
Tennessee	159,000,000
Texas	22,000,000
Utah	3,000,000
Vermont	5,000,000
Virginia	571,000,000
Washington	57,000,000
Washington, D.C	235,000
West Virginia	57,000,000
Wisconsin	59,000,000
Total	4,453,417,000

Mr. **Trible**. Thank you, Mr. Chairman.

Mr. **Bennett**. With that, we will ask for Mr. Dougherty to inquire.

Mr. **Dougherty**. Thank you, Mr. Chairman.

Admiral, the 5-year shipbuilding plan—I don't know if my colleague from Virginia sees this—you are not going to ask for any more aircraft carriers after these two for the next 5 years?

Admiral **Fowler**. You mean the 5 years subsequent to the current 5-year shipbuilding program?

Mr. **Dougherty**. Yes, in other words, I see in fiscal year 1984, nothing, no aircraft carriers requested, fiscal year 1985, 1986, and 1987.

Admiral **Fowler**. No other ones in the present 5-year plan. Beyond the 5-year plan, I cannot speak for.

Mr. **Dougherty**. You are saying in effect—I just noticed this—in the fiscal year 1984 budget there will be no funding asked for at all for the construction of the CVN?

Admiral **Fowler**. That is correct. What we are doing is making a break with the traditional nuclear carrier approach and, of course, the chairman here has not only been here longer than I have been but is also a history buff, so I am sure he knows the background.

We have in the past approached each carrier on the basis that we are going to build one and that is the only carrier we are ever going to build. We are asking for departure now from the one at a time approach to full and qualified commitment to build two over the next several years——

Mr. **Dougherty**. Going back to your point on the industrial base, would you advise me at some point in time as to how you see the future of Newport News, since I believe every nuclear aircraft carrier that has been built was built there, and what do you do when you stop building aircraft carriers at Newport News?

Mr. **Sawyer**. We have analyzed this through 1989 or 1990 in terms of manpower plans at Newport News and, interesting, using this approach, this is really one of the big benefits. It does tend to levelize manpower at shipyards and reduce some of the peaks and valleys, but each carrier is about 33 million man hours a shot, so it is quite a large mouthful to digest over the next 5.

Mr. **Dougherty**. I would just be concerned at some point, say in fiscal year 1985 you will come back and say we want to build another carrier because we have to maintain the industrial base. I have no problems with that. I think New Jersey does a good job. I was surprised to see we have been going with one a year and now we are going with two and then we are going 4 years without one.

Mr. **Sawyer**. I think we will have to introduce for the record, there is a carrier in the expanded planning for the next year after the 5-year program.

Mr. **Bennett**. That is probably a substitute for the one that is coming off, isn't it?

Mr. **Sawyer**. Yes sir.

Admiral **Fowler**. There is an important point, Mr. Dougherty, to be made also, that if Newport News does construct the two carriers, there is going to be other work they might normally get out of the 5-year plan that they would not get with that heavy workload.

Mr. **Dougherty**. I understand that and appreciate that. I am looking at the long term.

Admiral **Fowler**. There is a balancing effect around the country that way also.

Mr. **Trible**. You see this Pennsylvania/Virginia act is forming here, don't you?

Mr. **Dougherty**. Yes.

In your personal and professional judgment, does the RDF need 350 cargo ships to carry out its mission?

Admiral **Fowler**. Mr. Dougherty, that is outside of my responsibility and I have never really looked at the cargo lift capacity or needs, so I couldn't give you a competent professional answer.

Mr. **Trible**. In your judgment, do we have the base and can we immediately or within a reasonable period of time, like a few months at most, take the 140 worldwide freighters that are in the National Defense Reserve Fleet and put them into a seaworthy condition?

Admiral **Fowler**. I know nothing about those either. That is outside of my area of responsibility.

Mr. **Bennett**. We will cover that tomorrow at 10 o'clock.

Mr. **Trible**. I will be here, Mr. Chairman. I wouldn't miss one of these meetings.

In your personal, professional judgment, do we have enough naval escort vessels in the U.S. Navy today to carry out the mission of convoy support to move across the North Atlantic with all these grand plans we have for reinforcing Europe?

Admiral **Fowler**. Well, today the United States, not being in a state of war, I would say yes, but for future requirements, that is another area I don't concern myself with, so I am sorry, I cannot give you a good answer.

Mr. **Trible**. That is fine, I accept that. We will find some admiral who does know that.

When did we start getting the comment on LHA they would have a secondary role of sealane control?

I thought the LHA, or let's call it LHA, since that is what we are most familiar with, were built to be amphibious ships and now all of a sudden I see in the Navy testimony they are being built not only as amphibious ships, but a secondary role of sealane control.

Mr. **Sawyer**. I think this developed with full participation of the Navy and the Marine Corps with the deployment of NASA last year, with an embarked AV-8 squadron and the extremely fine performance of that ship with the embarked AV-8's whereby a dual role was seen for the ships. Still primarily first and foremost amphibious assault vessels, but as a secondary role, as a Harrier carrier, I guess, or a variant of the Harrier carrier.

Mr. **Trible**. I don't want to belabor the point. If you will bear with me 1 minute, has not the Navy had some strong reservations against the use of Harriers because they were not a high performance jet and couldn't fill the functions of control of the sealanes?

Mr. **Sawyer**. We definitely feel that the Harrier's current technology is not as capable as our attack aircraft, conventional takeoff and landing attack aircraft; that is correct.

Mr. **Trible**. Well, I don't want to get into it today, you and I will talk about it at some point in time. I find it interesting that in the past—I am talking prior administrations as much as this one, probably more so—and the Navy was out and saying that the Harrier was not a high performance aircraft, that its only function would be that of close air support and, therefore, we should cut back on the number of Harriers we buy and instead buy F–18's.

Let's face it, there has been an ongoing struggle with the Navy and Marines over survival of the AV–8 and it has been Congress that has always been put in the AV–8. The LHA's were primarily amphibious, until the NASA experience. It would be my judgment that the AV-8's were onboard primarily to reinforce the close air support of the amphibious force. I have strong reservations now about finding out that we are going to build the LHA and have them play a secondary role of sea control using an airplane the Navy in the past has testified was deficient in being able to perform those kinds of missions at sea. That is the impression I have gotten from prior testimony.

Mr. BENNETT. Let me add testimony a little bit on that, too, because some of this background comes out of the conference between the House and the Senate every year. For years, Senator Hart and others have pressed for a small carrier, and for years the House has said said well, when we get through building all the big carriers we absolutely have to have, we will be willing to look at small carriers. That conversation still went on last year, and so last year, I said to Senator Hart, why don't you declare the LHA a small carrier and everybody will be suited and everybody will be happy.

He wasn't real happy about that observation. He thought I was trying to be clever. Actually, I was trying to see what it is he desires to do because the facts didn't look very economically sound toward building that cost effective small carrier. Per dollar, it couldn't produce. I was hopeful what he wanted to do he could achieve on another ship which we already had, and so there is this little bit of background.

It doesn't mean we are wedded to using the Harriers or anything else, but there is a strong thrust in the Senate and some editorial media support for moving to small carriers. Almost everytime you pick up an analysis of what is happening in the Navy you see where it says there are butt-headed people who want to build nothing but big ships and they want to build small ships and it is just these big ship people that always win. Well, the only reason why the big ship people win is because the testimony is that for the dollar you put into it, you get more defense value for the country.

So we are seeking to find a way in which we could accommodate this desire to have a carrier type operation on a smaller ship, and I am not sure we have satisfied anybody with it, but it is something that ought to be looked at. That is all we asked the Navy to do, and they are looking at it open mindedly. They are not enthusiastic because you say the Harrier is not that good a plane, they haven't found that good a plane.

I don't want to build a carrier that can't use any plane that is in existence. That is another reason why you should not want to go to the small carrier and ought to try them out on something else, in my opinion, first that is already going to have a use, because otherwise, you might create a small carrier that would never have a use.

I just wanted to add that to it. It is not entirely the Navy's fault that we are looking at putting V/STOL type planes on the ships.

Mr. Secretary.

Mr. **Sawyer**. May I point out, Mr. Chairman, that the LSD-1 first and foremost is amphibious assault. I think you will find the Marine Corps is highly supportive of the features we are designing into the ship. She will be able to take three LCAC's, which is going to increase the capability as opposed to the LHA, which bearly holds one.

Second, she will be configured specifically much better to handle the AV-8 in terms of ammunition handling and other transport, internal transport mechanisms. It will have collective protective systems. We found the LHA to be a very capable multipurpose ship. LHD-1 enhances that capability even more.

Mr. **Dougherty**. If I may respond, I am very much in favor of the LHD, Mr. Secretary, and I am not in favor of small decked carriers. I think that battle took place about 2 years ago, Mr. Chairman, and we were on the same side on that.

I like the LHD-1. My problem is we are not going to do it fast enough.

You talk about the three LCAC's they are going to carry. Currently with the LSD authorization for the LSD program, we are running behind getting the LCAC's. At the same time we get the ships we are going to have three underway now. We are only authorized six LCAC's, which is three for each, so we are three LCAC's behind. We are not moving the amphibious ships through LCAC's at the same time, so that when you have a ship at sea you are going to have three LCAC's to put on it.

Mr. **Bennett**. When the gentleman from Pennsylvania arrives at the Pearly Gates, I am sure it is going to be an amphibious landing.

Mr. **Dougherty**. I hope I go that way.

Mr. **Schafer**. There is a pending supplemental request for fiscal year 1982. Included in that is $80 million associated with the CG-47 program. Is that $80 million necessary for the Navy to proceed with contract award for a second source on the CG-47?

Mr. **Sawyer**. We both might have a shot at that one. But, in my opinion, very definitely, and indeed, that money covers what is known in the terms of the nonrepetitive costs associated with second sourcing. As the proposals now come in from the potential second source yards, some additional costs may be identified which will require some additional funding, so we may properly proceed in a fully funded manner.

Mr. **Schafer**. If that funding were not approved as part of a 1982 supplemental, but rather as part of an fiscal year 1983 authorization and appropriation, would that cause problems for the Navy in proceeding with its plans?

Mr. **Sawyer**. I believe it would.

Admiral **Fowler**. It would in timing. because I would hope that we would make a selection of the second yard and be prepared to award the contract for the third ship in 1982.

We have already awarded two of the three ships in 1982 to Ingalls. We have a third one to award to the second source. I would like to see that happen in advance of the 1983 bill being passed even if it were passed earlier than normal in the last 2 or 3 years. It would cause some timing problems.

Mr. **Schafer**. Secretary Sawyer indicated you have additional information on what the costs are. When do you expect to have nailed down what the additional costs of that might be?

Admiral **Fowler**. By June we will have nailed everything down, but I don't anticipate they are going to change much from what our present estimates are. We are pretty well on the money.

Mr. **Schafer**. The second issue, Admiral Fowler, what steps is the Navy taking in designing ships and in looking at existing ships to improve energy efficiency? I know the Navy, just like all the services, has been faced with increasing fuel costs and right now, things have kind of leveled off. Certainly the long-term expectations are that will continue.

Are there steps that can be taken with existing ships to improve efficiency and what things are you planning to incorporate in new ship designs like the DDG-51 and LHD-1?

Admiral **Fowler**. Well, we are looking at the Racer system for the DDG-51 and we have an ongoing R. & D. program to develop that to the point where we think it can be tested at sea and if it satisfactorily passes the test at sea and is going to be reliable enough to incorporate into the design, we will incorporate that and we hope to get a very substantial savings in the maneuvering or average steaming sort of conditions there.

We do have an effort in all ships designed to try to achieve a very substantial reduction. Our targeting into the DDG-51 was 35 percent. I think CNO's objective is up around 35 percent. In all new design we look at anything that is feasible to do that we can do today. So in general, that is the way that is.

Mr. **Schafer**. On the 963 ships, as I understand, there has been a continuing problem with waste heat boiler areas. It also is my understanding that the Navy is looking at two alternatives to deal with that. One would involve solving the problem with the existing waste heat boilers and another way would be to take them off.

What is the impact in energy consumption between those two alternatives?

Admiral **Fowler**. It depends on the operating conditions that you want to define. The waste heat boiler actually conserves more energy than you can use. It generates a lot of steam but you don't need that much steam. So some people are inclined to say all that heat recovered is saved heat, but if it is not useful energy, put to useful purposes, then it is not appropriately called a savings.

You are right; we are looking at making that work more reliably so that we can retain it. We are looking at removing it and a number of other options. We are testing it in some new schemes on the Foster here very shortly and we have not really defined a long-range plan as to what we want to do with the existing DD-963 ships. This is another area where men of good will and intelligence differ about what the outcome will be. So we, as good engineers, will go and get more data until we collect enough data that will hopefully lead us to a logical conclusion.

Mr. **Schafer**. Thank you.

Mr. **Sawyer**. Could I add one thing? Actually in the more mundane areas of our programs there are some rather interesting things we are doing. In the TAO, for example, we are providing in the latitude for the shipbuilders in terms of their proposals to look at slow speed diesel alternatives, full fuel capability. That design will, for example, incorporate a shaft mounted generator and all of these are in the area of improving energy performance and efficiency.

Mr. **Schafer**. Are there specific approaches that are around languishing for lack of funds that get crowded out in part of the normal budget process?

Mr. **Sawyer**. We had one that was troublesome to me but I think that has been fixed, and that was the basic internal efficiency improvement to the LM-2,500. I believe that program is funded and moving ahead, which will increase energy efficiency by 6 percent.

[The following questions were submitted to the witness to be answered for the record:]

MINE WARFARE

Mr. **Hartnett**. Didn't the Navy consider the alternatives now being considered in last year's study? In fact weren't both the CAPTOR Variant and the British mine rejected in that study? And are not the reasons for their rejection still applicable?

Admiral **Fowler**. The alternatives considered by the Ad-Hoc Committee are not those under study now. Last year, both the CAPTOR Variant and the UK CSM were considered as uniquely developed systems to perform an MDM role. [Deleted]. The UK program is being reviewed from the viewpoint that a cooperative Technical Assessment Phase may provide the United States with a cost effective moored mine subsystem development effort.

Mr. **Hartnett**. Why has the Navy stopped the Medium Depth Mine development again and ommitted any request for funding in fiscal year 1983?

Admiral **Fowler**. The Medium Depth Mine (MDM) program was terminated because it was too costly.

Mr. **Hartnett**. What are the plans for the Medium Depth Mine in fiscal year 1984?

Admiral **Fowler**. The MDM program is currently under internal Navy review, with a decision and recommendation expected to be forwarded to SECNAV by 1 May 1982.

Mr. **Hartnett**. Since it is clear considering the stopped, slowed condition of the MDM program, that there is no way to have even an interim capability in the fleet prior to 1989? Would the Navy support the addition of funds by Congress in fiscal year 1983 to allow this program to continue toward an early fleet introduction of the MDM?

Admiral **Fowler**. Assuming the internal review process recommends proceeding forward with an MDM program, the Navy would support the addition of fiscal year 1983 funds by Congress.

Mr. **Hartnett**. What funding is required for fiscal year 1983 and what is your estimate of total development and production costs?

Admiral **Fowler**. Until a program is defined and approved by OPNAV and SECNAV, it is not possible to provide those costs.

Mr. **Hartnett**. How much has been spent in the stop-start exploring of alternatives and plans for an MDM so far? How much more is needed before we can get on with development?

Admiral **Fowler**. Through fiscal year 1981, $26.8M has been expended. It is not possible to answer the second portion of the question until a program is defined and approved.

Mr. **Hartnett**. What is the status of the Craft of Opportunity Program (COOP) which was briefed to me by Admiral Horne?

Admiral **Fowler**. The Craft of Opportunity Program is being developed under the management of Commander, Mine Warfare Command. Currently, the COOP organization is being structured, equipments are being studied, and tactics are being designed. Additionally, the extent of Navy-Coast Guard interface has been developed at the working level and submitted for approval.

Mr. **Hartnett**. Is a [deleted] mine what the Navy really needs?

Admiral **Fowler**. [Deleted]. These two factors are large contributors in assessing mine performance. There are however, other methods of accomplishing the same objective. They are all under constant scrutiny by the Navy together with their development/procurement costs as possible mine subsystems.

MANAGEMENT MEASURES FOR ELECTRIC BOAT

Mr. Emery. On page 9 of your testimony, you say, "Assuming Electric Boat maintains current workforce and applies manpower as necessary to deliver *Los Angeles* class ships on schedule, unless strong measures are taken by Electric Boat management, it is doubtful that later *Ohio* class subs will be delivered to the contract schedules." What are the strong measures that need to be taken, and will they have the desired effect?

Admiral Fowler. In addition to the two measures inherent in the basic assumptions, namely increasing the current workforce and diverting manpower from the *Los Angeles* class submarines, Electric Boat could take actions such as the following to maintain later *Ohio* class schedules:

(a) Concentrate on improving individual worker productivity.
(b) Establish a program to reduce rework.
(c) Improve material staging near worksites.

If properly executed, the above measures, or some combination thereof, should have the desired effect.

RESULT OF FUNDING ONLY ONE FISCAL YEAR 1983 TRIDENT

Mr. Emery. Admiral, as you recall, the Congress declined to fully fund two Tridents last year, and there is sentiment in Congress this year to repeat last year's performance. On page 9 again, I see that the Current Contract Delivery dates for SSBNs 727-730, while more optimistic than the March 81 Navy dates, still represent delays from the orginal Contract dates of two years or more on each vessel. What would be the effect on this schedule if the Congress again declined to fund the two Tridents that are requested in the fiscal year 1983 SCN account?

Admiral Fowler. The schedule for the ships under contract could be expected to slip further as Electric Boat adjusts construction periods to minimize the resultant production break.

EXPECTATIONS FOR ELECTRIC BOAT MANAGEMENT PLAN

Mr. Emery. On page 11, you indicate that Electric Boat has not presented a current manpower management plan. When do you expect this plan to be presented, and what are you looking for it to say?

Admiral Fowler. Since submission of my prepared statement Electric Boat has provided partial preliminary manning plans. Based on these preliminary plans, the complete manpower plan will likely show significant increases in planned manning for *Ohio* class ships and reduced manning for *Los Angeles* class ships. For the first two months of this year Electric Boat's manning on *Ohio* class ships has fallen short of their preliminary plan.

FRIGATE FORCE LEVEL

Mr. Emery. Last year, before this Subcommittee, Deputy CNO for Surface Warfare Admiral Rowden stated: "The minimum frigate level that we feel we need—is on the order of 100 ships. In order to maintain 100 ships with a nominal life of 30 years, we have to build three to four ships per year . . ."

Since there are only two FFGs in the fiscal year 1983 request, can we assume the Navy does not intend to maintain a Frigate force level of 100 ships into the future?

Admiral Fowler. The Navy's force level objective is 101 active frigates. This objective will be attained in fiscal year 1991. Fiscal constraints and higher priority ship construction, coupled with the congressional mandate to build up the Naval Reserve Force to 24 frigates by fiscal year 1988, preclude attainment of 101 active frigates in earlier years. Upon reaching the objective number of frigates in the early 1990's, the Navy will maintain the force level into the future.

Mr. Emery. Is this figure included in the frigate force level objective of 100 which Admiral Rowden spoke of?

Admiral Fowler. The 101 frigates of which Admiral Rowden spoke was the force level objective for active ships. It does not include the 24 FF 1052 and FFG 7 class frigates to be tranferred to the Naval Reserve Force.

Mr. Emery. How many escort-type frigates do we have in the fleet today and what are their missions?

Admiral Fowler. By the end of this fiscal year the Navy will have a total of 82 frigates in the active inventory. Including the FF 1952 class ships recently transferred to the Naval Reserve, the total number of frigates will be 86. The mission of the frigate is to provide self-defense and effectively supplement planned and existing escorts in the protection of underway replenishment groups, amphibious forces and military shipping against subsurface and surface threats.

Mr. Emery. How many open-ocean type frigates do our Allies deploy today?

Admiral Fowler. Our NATO allies have a destroyer/frigate inventory of 186 ships. Of this number, 75 percent are fully operational; 5 percent "deploy" in the U.S. sense; and 20 percent at any one time are in shipyards. Most of these escorts are primarily deployed in coastal waters.

Mr. Emery. Admiral, last year our Research and Development Subcommittee was very concerned over the absence of the Seafire system on the DDG 51 class destroyer. I thought the Navy had agreed to incorporate this system on DDG but I do not see it listed anywhere.

Has the Navy eliminated Seafire from DDG 51? If so, why?

Admiral Fowler. The Navy terminated the Seafire/Guided Projectile Program due to the fact that the cost to procure these systems exceeds affordability limits. The requirement for an electrooptic Gunfire Control System (GFCS) capability is not questioned and alternatives are being evaluated for the DDG 51.

Mr. Emery. Admiral, last week the Naval Reserve Association testified before this subcommittee that while the Naval Reserve had been given the sole responsibility for maritime escort during conflict, it has not been given, and will not be given, enough escort-type ships to fulfill that mission. Even with a new fleet of 24 frigates and some 50 Allied escorts, the Navy would be woefully short of escort ships. What are our wartime requirements for escort-type ships?

Admiral Fowler. Active frigate force levels are based on the numbers of ships required to perform general ASW and convoy escort duties in both the Atlantic and Pacific ocean. In addition, frigates are required to escort amphibious and underway replenishment groups. Considering these requirements, and the contribution of our allies to convoy protection, the Navy's active frigate force level objective is 101 ships. This force level does not envision escort of all mercantile shipping. A force of 24 Naval Reserve frigates, with the same capability as active frigates, will provide flexibility for augmentation of active forces or escort of mercantile shipping.

Mr. Bennett. The subcommittee will meet again at 10 o'clock in the morning.

[Whereupon, at 3:05 p.m., the subcommittee was recessed.]

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OVERVIEW AND WRAP-UP OF FISCAL YEAR 1983 BUDGET

House of Representatives,
Committee on Armed Services,
Seapower and Strategic and
Critical Materials Subcommittee,
Washington, D.C., Wednesday, March 24, 1982.

The subcommittee met, pursuant to call, at 10 a.m., in room 2212, Rayburn House Office Building, Hon. Charles E. Bennett (chairman of the subcommittee) presiding.

Mr. Bennett. The subcommittee will come to order.

Today will conclude our hearings on the fiscal year 1983 defense authorization request.

This morning we are pleased to welcome Hon. John F. Lehman, Jr., Secretary of the Navy, Adm. Thomas B. Hayward, Chief of Naval Operations and Gen. Robert H. Barrow, Commandant of the Marine Corps.

At our hearing this afternoon, we will hear testimony on Other Procurement, Navy from Rear Adm. Richard A. Miller, Director of Fiscal Management Division, Office of the Chief of Naval Operations and on Weapons Procurement, Navy from Rear Adm. S. J. Hostettler, Director, Surface Combatant Systems, Office of the Chief of Naval Operations.

The sealift hearing scheduled for last Thursday, March 18, was canceled at the request of the Department of Defense because the Department was not prepared to discuss its recommendations concerning the merger of the Military Sealift Command and the Military Traffic Management Command.

A copy of Vice Admiral Carroll's testimony, describing the Military Sealift Command's sealift programs was provided to each member of the committee. If there is no objection, Admiral Carroll's statement will be included at the end of the record of today's hearing.

The subcommittee will meet next Tuesday, March 30, to markup the fiscal year 1982 supplemental and the fiscal year 1983 bill.

As I understand it, it is not likely that there will be a separate fiscal year 1982 supplemental bill. The committee would therefore plan to include approved items from the supplemental request in the fiscal year 1983 bill.

I would ask that during their testimony this morning, Secretary Lehman, Admiral Hayward, and General Barrow address the fiscal year 1982 supplemental request and the effect of a delay in authorization.

Mr. Spence, do you wish to make a statement?

Mr. **Spence**. Mr. Chairman, thank you, I have just a short statement, please.

First, I want to note that since this is probably the last time that Admiral Hayward will appear before the subcommittee, I would like to compliment him for the vigorous manner in which he has fought for a strong and battleworthy Navy, sometimes under duress from a not-too-sympathetic administration in the past. I smile when I think of our big controversy 1 year or so ago over the last big nuclear carrier.

I will be sorry to see you leave and hope that your good counsel will be available to us in some role in the future. At the same time, I want to wish your successor, Admiral Watkins, a superlative tour of duty.

Secretary Lehman and Admiral Hayward, I am still somewhat concerned that the Navy is not taking full advantage of an opportunity available to it to build combatant ships that are true variable payload ships. There seems to be a battle of semantics going on to downgrade the technical opportunities available for exploration of the Ships Systems Engineering Standards [SSES] concepts.

The DDG-51 class destroyer will initiate the beginning of a whole new class of surface combatants for the Navy. The development of such a class of ships should not be under constraints in tonnage or systems development that will unnecessarily limit its combat effectiveness, when superior options appear available with a minimum of development risks.

In one form or another, I believe the Navy should proceed as quickly as possible with detail design development and testing of a mid-sized combatant variable payload ship fully implementing the SSES concepts so that by the end of fiscal year 1984 you might have an attractive option for the destroyer fleet of the 1990's.

To followup on Mr. Bennett's statement, I would like to hear each of your views concerning the status of the proposed merger of the Navy's Military Sealift Command and the Army's Military Traffic Management Command as it relates to enhancement of strategic sealift mobility.

Mr. **Bennett**. Thank you very much.

It is really a sad and enjoyable thing when we think about Admiral Hayward leaving us, because we have had his great service here. It is sad to not have you again before us, but you have been a real inspiration to this committee and this country.

Your services have been magnificent. I wish you every success, and we really will miss you.

Secretary Lehman, would you proceed.

Biographical Sketch of Hon. John F. Lehman, Jr.

On January 23, 1981, President Reagan announced the selection of John F. Lehman, Jr., to be Secretary of the Navy. He was confirmed by the Senate on January 29 and took the oath of office on February 5, becoming the 65th Secretary of the Navy.

Mr. Lehman is a businessman, a scholar, an author, a Naval Reserve Commander and Flight Officer and is one of the youngest men to be appointed Secretary of the Navy.

Prior to this appointment, Mr. Lehman was President of Abington Corp., a management firm that specialized in defense matters.

Mr. Lehman has been involved intimately in defense and foreign affairs since the late 1960's, when he was a staff member of the Foreign Policy Research Institute from 1967 to 1969 at the University of Pennsylvania. From 1969 to 1974 he served as Special Counsel and Senior Staff Member to Dr. Henry Kissinger on the National Security Council, and from 1974 to 1975 was a Delegate to the Mutual Balanced Force Reduction Negotiations in Vienna. He became Deputy Director of the U.S. Arms Control and Disarmament Agency in 1975, holding that position until 1977.

Upon graduating from the La Salle College High School, Mr. Lehman enrolled in St. Joseph's College, where he earned a B.S. in International Relations in 1964. That same year, Mr. Lehman enlisted in the Air Force Reserve. He continued his education at Cambridge University in England as an Earhart Fellow and graduated in 1967, receiving a B.A. with Honours Law and an M.A. in International Law and Diplomacy. He left the Air Force Reserve and accepted a direct appointment in the rank of Ensign in the Naval Reserve in January 1968. Subsequently, he was designated a Naval Flight Officer (bombardier-navigator), and promoted successively to his current rank of Commander. He is assigned to Medium Attack Wing One, Naval Air Station, Oceana, Virginia. In 1974, he earned his Ph.D. in International Relations from the University of Pennsylvania and was a Visiting Relations from the University of Pennsylvania and was a Visiting Fellow at Johns Hopkins School of Advanced International Studies in Washington, D.C.

Mr. Lehman has authored or co-authored several publications on national and international defense and foreign affairs subjects. They include: "The Prospects for Arms Control" ed. by J. E. Dougherty and J. F. Lehman, Jr. (McFadden: New York, 1965); "Arms Control for the Late Sixties," ed. by J. E. Dougherty and J. F. Lehman, Jr. (Van Nostrand: Princeton, 1967); "The Executive, Congress and Foreign Policy," by John Lehman (Praeger: New York, 1976); "Aircraft Carriers: The Real Choices," by John Lehman (Sage: 1978); and "Beyond the Salt II Failure," by John Lehman and Seymour Weiss (Praeger. New York, 1981).

He was born on September 14, 1942, in Philadelphia, Pennsylvania, and is married to the former Barbara Wielan. They have two children, John F., III, and Alexandra, 5. They reside in McLean, Virginia.

STATEMENT OF HON. JOHN F. LEHMAN, JR., SECRETARY OF THE NAVY

Secretary LEHMAN. I have submitted a posture statement for the record. Instead of recapitulating those points, I will simply summarize the state of the Navy's budget proposals as I see them today.

As this committee is aware, our budget has been derived from a set of commitments that are handed to the Navy in a series of some 40 treaty relationships. They are really a national tasking to the Navy that provides the requirements for which we must build and train.

We outlined to this subcommittee last year, and to the full committee this year, the strategy that the Navy and the Marine Corps agree upon to achieve those national objectives. The force structure that is embodied in this budget is derived directly and austerely from that strategy; a strategy to achieve our minimum national security vital interests. We believe that we have, in the force structure we have put forward, an achievable and affordable expansion of the Navy to allow us to regain a position, which we are not in today, of being able to meet those national commitments.

I am confident that with the current budgetary growth which is well below the peak of what this Nation devoted to post-war peacetime defense, we will be able to achieve, before the end of this decade, the reestablishment of what President Reagan has called for, a margin of safety, and what President Reagan has called for in reacquiring maritime superiority.

We believe this program is well along after 12 months of initiatives; we have been able to demonstrate that the strong actions taken by this committee in past years, and now built upon by the Reagan administration, were the correct initiatives to take; that the program we are building upon is the most cost-effective and logical force structure that can achieve these objectives, and that the initiatives on personnel and in increasing and enabling multiyear procurement and increasing the number of ships and aircraft buys that can reduce the unit costs are providing the taxpayer with an enormous amount of good news. I regret that the press does not seem to want to print good news.

We have been able, in the last 12 months, to point to some very major accomplishments in cost savings. I have recited several times the savings that we can point to in personnel, thanks to the pay raises and bonuses of the last 2 years or so begun in the Armed Services Committees. We have been able to show major budgetary savings across the board in procurement.

To take but one of our accounts in shipbuilding, we have been able to show some $20 million savings in the procurement and the delivery last week of the *Vinson* 34 days ahead of schedule.

Of 15 ships delivered in 1981, we can demonstrate $91 million of below-contract cost savings to the taxpayers and early completion of those ships totaling 900 days.

To take one example at Bath Iron Works, they delivered five FFG's between February 1981 and March 1982, a total of 529 days early at a cost savings of more than $28 million to the taxpayer.

At Lockheed Shipbuilding out in Seattle, we delivered a major ship submarine tender, the U.S.S. *McKee*, 30 days ahead of schedule at a cost savings of more than $1 million; National Steel & Shipbuilding Co., delivered a destroyer tender at a cost savings of $11 million to the taxpayer. Ingalls Shipbuilding delivered four DD-963 ships at a savings of $50 million, and so on. And yet, Mr. Chairman, you don't read about these things in the paper.

We are required to report to Congress, under Nunn amendments provisions, those programs which have overrun and exceeded thresholds over the last 3-month reporting period. We only had to report two projects, the 5-inch guided projectile and the AIM-7F Sparrow, that had unit cost constant dollar growth. I think that is a major accomplishment, and yet all I read in the headlines are massive overruns and so forth.

The reasons for these accomplishments are the support Congress has given us in the last 12 months, enabling us to reinstill a discipline in the development procedures and the contracting procedures, both in the way we do business in the Navy and by forcing a new discipline within the contracts and the way contractors do business.

It would be no less than a historic tragedy if this tremendous turnaround in the fortunes of our defense program were undercut by any substantial reductions in the program that we have put forward, because that is what it would be. That is quite apart from the devastating impact of forcing us to go back into the negotiated agreements on multiyear procurement of aircraft carriers, submarines, frigates, and so forth, forcing us to reopen contract negotiations. The psychological impact throughout the defense community would be equally devastating.

We have been able to draw in hundreds of new suppliers almost weekly, to replace the 30,000 suppliers and subcontractors that we have lost over the last 10 to 15 years. That is bringing about new, a whole new competitive environment, enabling the Navy to make far better deals and begin to see right now far more cost savings than has ever been possible in the recent past. All of that will end. All of the decisions taken by boards of directors to risk putting in new capital improvement will have been doomed.

I submitted to the full committee a list of some 40 major capital improvements made out of contractors' own funds whereby they have been "betting on the come," as it were. As one example, in the TAKX charter program we received some 25 bids and a total of some 56 ships when we expected maybe only 3, 4, 5 at the most.

That is the kind of competition we are seeing across the board, and all of that is going to end if the Congress, in a hasty attempt to show symbolic cuts, decides that defense must somehow take a fair share, after 15 years of defense taking far more than its fair share of cuts; yes all of that is going to come to an end, and I believe, Mr. Chairman, that this is the last chance this country has of turning the adverse trends around and reestablishing a viable defense program.

WRITTEN STATEMENT OF HON. JOHN F. LEHMAN, JR.

Mr. Chairman, I am pleased to have this opportunity to present my current assessment of the United States Navy posture.

One year ago I outlined to this Committee our priorities for restoring adequate strength to the United States Navy and Marine Corps. For the first time in recent history, the Department of the Navy leadership testified that we had lost maritime superiority. The budget that has been presented to you by the President has as its principal objective the restoration of that maritime superiority.

As a nation with global commitments and interests, U.S. national security requirements extend far beyond its boundaries. Since WWII, we have protected these interests through a forward defense posture that has as its goal the deterrence of threats and a rapid flexible response should deterrence fail. Strong naval forces are absolutely essential to our forward strategy.

The term "maritime superiority" is not nearly as important as what is meant by that shorthand term, which is that "our nation must be capable—and be seen as capable—of keeping our access secure to areas of vital interest, and we must be able to do this in the face of the most determined opposition. A stalemate is unacceptable, because it is we who depend on the seas." Freedom of access to the seas is itself a national objective—a security imperative, an essential condition for the success of any national security strategy.

"Maritime superiority" does not mean that we must seek to be omnipresent on all oceans, nor act as the world's naval policemen. It means that in those areas of our vital national interests we can sustain the access and freedom of movement we need, even if challenged by the combined military threat of our adversaries. Geography, which strongly favors the U.S. and its allies, sets the parameters of our task. This Administration's naval rebuilding program is absolutely essential to the successful achievement of this task, with the important contributions of friends and allies, and the added capabilities of U.S. air and land forces.

"Maritime superiority" provides the flexibility to offset enemy advantage and exploit weakness. Deterrence of general war is thus fortified by safeguarding the necessary reinforcement and resupply of our forward deployed units and by threatening enemy vulnerabilities in widely separated areas. "Maritime superiority" is not matching a potential enemy ship for ship, sailor for sailor, it is our capability to use to advantage important maritime areas when and where required. "Maritime superiority" is the confidence that those maritime tasks essential to our security can be accomplished successfully.

The strategy of maritime superiority is an imperative based upon national commitments that are firmly founded in law through a web of some 40 treaties around the globe. These in turn reflect our vital national interests. They should, of course, be abrogated if they do not. Therefore the commitments that our force levels are designed to meet are not a matter of the Department of the Navy's discretion, nor of the Department of the Defense. The force level presented in this budget—the 15 battlegroup 600-ship Navy; and the strengthened Marine Corps, is the *minimum* force expansion necessary to meet national commitments. Smaller force levels would only be sufficient and justifiable if some national commitments were to be abandoned.

The 1983 budget for the Department of the Navy embodies a major new management program. Its new elements include:

New contract discipline wherein contractors bear more risk and responsibility for performance, and have substantial profit incentive to come in under cost and ahead of schedule.

Implementation of the 31 "Carlucci" DOD management and procurement initiatives.

Multi-ship procurement of aircraft carriers.

Multi-year procurement of aircraft.

Maximum utilization of older and existing assets.

Product improvement of proven systems rather than new development.

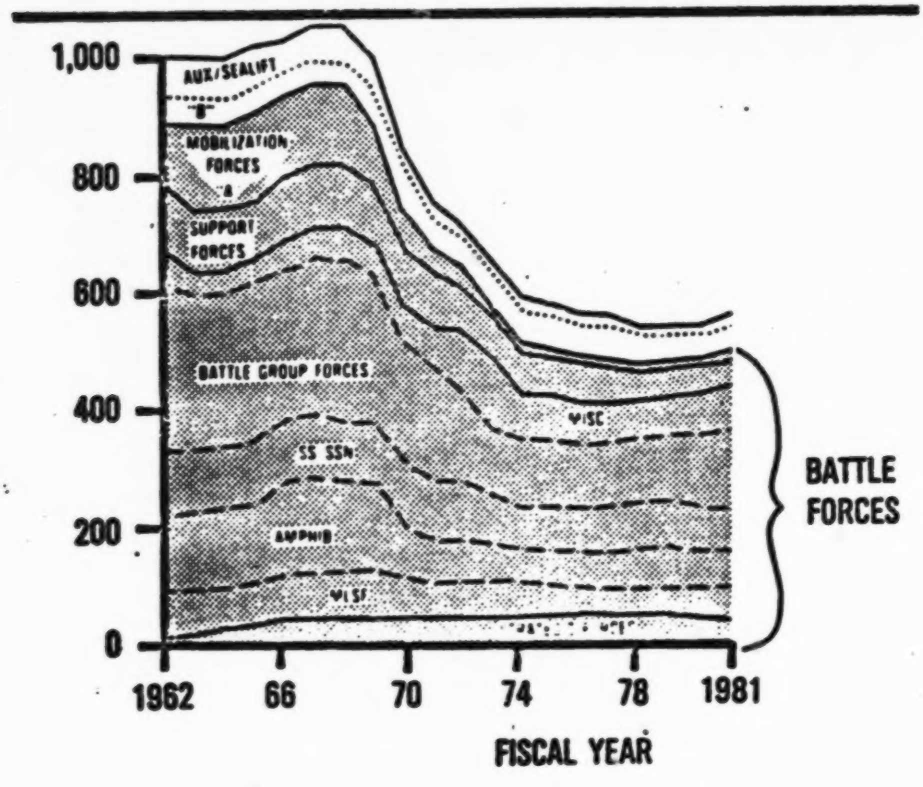
Substantially increased competition in the shipbuilding program.

Cancellation of 43 marginal development and procurement programs.

Shortening of the development deployment cycle.

MAJOR PROCUREMENT ISSUES

U.S. NAVY SHIP FORCE LEVELS



Years of deferral have required that we begin our naval recovery program from a reduced base. As in many areas of our defense posture, the Soviets had strong momentum in their building programs. We had none. One year ago we had a base of 12 deployable aircraft carriers and 12 carrier air wings, with no replacement aircraft. We had a 469 ship fleet, which included 78 attack and 32 missile submarines. In that year we outlined a force structure expansion of some 30 percent, building to 15 battlegroups and about 100 attack submarines. The program required additional aircraft carriers, battleships, attack and strategic submarines and ships for amphibious assault, strategic sea-lift, fleet support, and mine warfare, as well as other support vessels required for a balanced fleet.

NUMBER OF BATTLEGROUPS NEEDED TO SUPPORT NATIONAL STRATEGY

Because of the emergence of global Soviet maritime power, the number of battlegroups necessary to avoid turning over any of our vital maritime areas to Soviet control is calculated on a number of factors—geographic advantage, substantial U.S. Air Force contributions, the synergy possible with mobile Army forces and allied Navy and Marine forces, and the strike capability that *only* U.S. battlegroups can provide. The minimum number of battlegroups necessary to carry out a strategy that will maintain all of our vital interests is 15.

MULTISHIP PROCUREMENT OF TWO NUCLEAR AIRCRAFT CARRIERS

The procurement strategy of fully funding CVN-72 and CVN-73 in FY 83 delivers each of two vitally needed ships 22 months early, provides nearly four additional ship-operating years, and saves about $750M when compared to the usual sequential procurement strategy of funding carriers individually in separate years. The Navy's plan fully funds the ships' end cost in FY 83. This procurement reflects not only the full-funding policy expressed by both the Congress and the Office of Management and Budget, but will also significantly strengthen our vendor and contractor industrial bases.

The Department of the Navy has studied, and continues to study, alternate aircraft carrier designs. Congress has been provided with detailed designs of carriers ranging from 15,000 to 100,000 tons. Many of these designs would be extremely valuable military assets. Nevertheless, we conclude from all source evidence including the study of the new technology that the NIMITZ-Class nuclear carrier clearly remains the most cost-effective option, and the very best means to meet both warfighting needs and maximize deterrent posture into the future. The extensive data base the Navy has developed by operating carriers of all sizes for many decades yields no other conclusion.

The large size of the NIMITZ permits the operation of an airwing with a four-dimensional capability. Action can be taken simultaneously against air, land, surface and sub-surface adversaries. It can operate the entire range of tactical aircraft, both conventional and VSTOL, with the flexibility to adapt to all potential military requirements. Moreover, it possesses the sustainability required not only to get to the scene of action but to stay there—and win.

The NIMITZ design provides enormous additional operational safety and flexibility in high sea states and all-weather conditions by having a large and stable deck. Accident rates for small carriers currently in operation, and for those in prior years, are much higher than for the NIMITZ class.

The NIMITZ class now has the passive protection that we have learned—through the experiences of World War II, and through constant monitoring of the latest Soviet development—are necessary to fight, take damage, and prevail.

AIRCRAFT PROCUREMENT

The 1983 DON budget includes procurement of 288 aircraft. The number is approximately double that planned previously and saves the taxpayer an enormous amount of money, through economies of scale. We have succeeded in reducing the constant dollar unit cost of the F-14, A-6E, C2A and EA6B substantially.

I would strongly urge that no changes be made in our APN account that would reduce the substantial unit cost savings now available.

THE BALANCE BETWEEN OPERATIONS, MAINTENANCE, READINESS AND SUSTAINABILITY, AND THE INVESTMENT ACCOUNTS

Concurrently with the significant decline in our force structure over the past decade, there was an equally alarming decline in our readiness and sustainability. Much publicity attended reports of large shortages of ammunition, weapons, and maintenance spares. The Reagan supplemental to the 1981 budget and the revision of the fiscal year 1982 budget placed top priority on rapidly recovering from these accumulated deficits. This turnaround has been dramatically achieved. The current budget continues to restore health to our readiness and sustainability accounts. In every category we seen continued improvement, building on the 1981 and 1982 appropriations. In some categories, particularly in the maintenance of sufficient quantities of higher technology ammunition and weapons, we would like to see faster growth. But we do view the current program as balanced.

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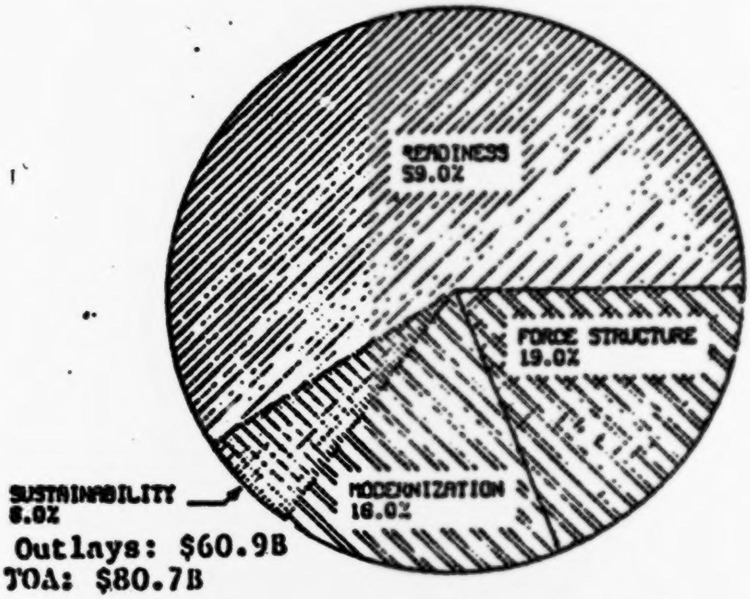
U.S. NAVY FISCAL YEAR 1983 MILITARY CAPABILITY COSTS PROJECTED FISCAL YEAR 1983 OUTLAYS



MANPOWER AND PERSONNEL

The dramatic turn-around of recruiting and the retention of skilled personnel in the Navy and Marine Corps has been one of the most successful developments of the last 12 months. Set in motion by the leadership of this committee in 1980, this success has been built on determined and innovative actions by this Congress and by the Reagan Administration, who have followed through on their commitment to bring pay and compensation back to the comparability levels of 1973. This has now been accomplished, and the results have exceeded predictions for manning our expanding Navy. In addition to the monetary changes, there is no doubt that the renewed prestige accorded the military by Congress and the Administration, and the support and appreciation of the American public—as well as President Reagan's ambitious rearming of America—have all contributed significantly to the excellent personnel news of the last 12 months.

ENLISTED RECRUITING

In fiscal year 1981, the Navy exceeded its total enlisted accession goal, recruiting 106,322 personnel. For 26 straight months, we have made over 100 percent of quota, and the quality has been steadily increasing. The Marine Corps has exceeded its annual recruiting goal for both fiscal year 1980 and fiscal year 1981. High school graduate accessions remain above 80 percent.

NUCLEAR OFFICER RECRUITING

With high civilian salaries to attract nuclear-trained officers, this community has long suffered from chronic officer shortages. The result has been long and repeated tours at sea. Officer Sea Pay, increased Sub Pay, and increased Nuclear Bonus rates have acted together to reduce resignations by 23 percent during the past year. A number of former nuclear-trained officers have also returned to active duty as a result. We have, therefore, been able to reduce an officer's sea time from 15 to 14 of his first 20 years. We are confident we will eventually be able to achieve a goal of 11 years at sea.

AVIATION OFFICER RETENTION

The most dramatic example of the great savings that the pay initiatives of last year have provided is in aviation officer retention. With a total expenditure of only $33.9 million in fiscal year 1981, and $55.6 million planned in fiscal year 1982, we have been able to reverse the extremely low rates of retention for pilots and naval flight officers. Because it takes $850,000 to train a naval pilot, and $650,000 to train a naval flight officer, the ability to retain experienced aviators during the most useful periods of their careers is very cost effective. In fact, because of the bonus, we have retained over 500 pilots and 125 NFOs that were expected to leave the Navy and Marine Corps. A conservative estimate would suggest a taxpayers' savings of approximately 450 million dollars in training costs during the past 12 months alone. As a result of this positive trend, we can now expect substantial savings in the development and procurement of a new training aircraft, largely because we now have unexpectedly achieved our goal in naval flight officer numbers. We are now able to recommend reprogramming money previously planned on maintaining a much higher level of NFO training. Additionally, the retention of skilled and experienced aviators provides an immediate and lasting increase in fleet readiness and combat capability, and a lowered accident rate.

CAN WE AFFORD A 600-SHIP NAVY

The program that we have put forward recommends that Congress face up squarely to the issue of whether we intend to meet our national commitments or not. We have put forward a program that can achieve the minimum force levels, readiness, and manning needed to meet national commitments and to secure peace in this decade and beyond. Most importantly, our program puts forward an optimum strategy for procuring this force at maximum savings to the taxpayer. Unlike traditional patterns in previous five-year plans, this Department of the Navy program is front-loaded. We are asking Congress to face squarely the issue of obligating funds now which, though large in obligational authority, will be paid out over some 8 years. By courageously facing up to the issue of fully funding two aircraft carriers and the remainder of our $19 billion shipbuilding account, and in fully funding cost-effective production rates in our aircraft procurement account, Congress can break out of the cycle of cost-overruns and deferred cost growth that has plagued defense policy for at least the last decade.

The cost of substantial cuts in these initiatives will be enormous, and they too must be faced. If cuts are made in this program, I believe it may never again be possible to obtain the enthusiasm—and the commitment to competition and investment—that we have now obtained from our shipbuilding and aerospace industry. Unit costs will skyrocket and in the end the taxpayer will pay far more for whatever force size is ultimately established by Congress. Conversely, this committee knows well that even the cancellation of both aircraft carriers, and a halving of the total requested obligational authority for shipbuilding, will provide less than $1 billion of savings to the 83 budget deficit.

History clearly shows that nothing is more costly than the outbreak of war. That is precisely what I believe we risk in the long run—and possibly in the short run—if the momentum of President Reagan's rearming of America and the restoration of clear maritime superiority is lost through substantial cuts to the 1983 budget.

Mr. BENNETT. I think we are all deeply grateful for the nice things you have said about Congress. I think this committee and the Congress has tried and without your leadership, we are deeply grateful and also deeply grateful to the President for courageously insisting we look at the actual fact of what our defense needs are. Not many people in public life are willing to buck opposition to the extent he has to point out the real needs of our country.

Admiral Hayward, would you like to say something at this point?

BIOGRAPHICAL SKETCH OF ADM. THOMAS B. HAYWARD

Admiral Thomas B. Hayward became the 21st Chief of Naval Operations on July 1, 1978.

Admiral Hayward brought to his present position broad experience in command of major fleet units, an extensive background in Navy program planning and management, and a long and distinguished career in Naval Aviation, including fighter pilot experience in Korean and Vietnam combat operations and duty as a Navy test pilot. He has commanded aviation squadrons and a carrier air wing, a stores ship and an aircraft carrier, served as Commander, U.S. Seventh Fleet, and was Commander in Chief, U.S. Pacific Fleet, prior to taking over as Chief of Naval Operations.

A native Californian, Admiral Hayward attended Glendale Junior College and Occidental College at Los Angeles, and in 1943 was appointed a Naval Aviation Cadet in the V-5 Program, of the U.S. Naval Reserve. He entered the U.S. Naval Academy in 1944 on appointment from the State of California and upon graduation was commissioned Ensign in the U.S. Navy on June 6, 1947.

Following graduation from the U.S. Naval Academy, he served on the aircraft carrier U.S.S. *Antietam* until detached in September 1948 for flight training at Naval Air Station, Pensacola, Florida. Designated a Naval Aviator on July 26, 1950, he was assigned to Fighter Squadron FIFTY-ONE. While with that squadron, he participated in combat operations in Korea, embarked in the carrier U.S.S. *Essex,* and later in U.S.S. *Valley Forge.*

In January 1954, he reported for test pilot training at the Naval Air Test Center, Patuxent River, Maryland, and upon completion of training remained there as a test pilot and project coordinator. He next attended the Aviation Safety Officers School at the University of Southern California at Los Angeles, after which he served with All Weather Fighter Squadron Three. In August 1958 he reported for instruction at the Naval War College, Newport, Rhode Island and in December 1959, joined Fighter Squadron Two Hundred Eleven as Executive Officer. In July 1961, he became Administrative Aide to the Secretary of the Navy.

He was next attached to Fighter Squadron One Hundred Three in December 1963, serving as Executive Officer and later as Commanding Officer. In July 1965, he assumed command of Attack Carrier Air Wing 10 which was deployed to the Mediterranean aboard the carrier U.S.S. *Shangri-La,* and later to Southeast Asia in the Vietnam conflict aboard the carrier U.S.S. *Intrepid.*

From August 1966 to August 1967, he was a student at the National War College in Washington, D.C., and in 1967 he received a Master of Science degree in International Affairs from George Washington University. He was next Commanding Officer of the stores ship U.S.S. *Graffias* operating off the coast of Vietnam. In August 1968, he reported as Executive Assistant and Aide to the Under Secretary of the Navy.

In December 1969 he assumed command of the attack carrier U.S.S. *America,* deploying to the 7th Fleet as the flagship of Commander Task Force 77. Promoted to Rear Admiral in November 1970, he reported to Hawaii as Commander Hawaiian Sea Frontier and Commandant of the Fourteenth Naval District. He was assigned additional duty as Commander Fleet Air, Hawaii, and Commander Manned Spacecraft Recovery Forces, Pacific.

He became Director of the Office of Program Appraisal, Navy Department, in December 1971, and on April 26, 1973, was promoted to Vice Admiral and reported as Director, Navy Program Planning in the Office of the Chief of Naval Operations.

On June 14, 1975, he assumed command of the U.S. 7th Fleet in the Western Pacific and was embarked in the guided missile cruiser U.S.S. *Oklahoma City.* Promoted to the rank of Admiral, he assumed duties as Commander in Chief, U.S. Pacific Fleet on August 12, 1976.

Admiral Hayward's decorations include the Defense Distinguished Service Medal, the Navy Distinguished Service Medal with Gold Star in lieu of a second award, Legion of Merit with two Gold Stars, Distinguished Flying Cross, Air Medal with ten Gold Stars and Bronze Numeral 3, Navy Commendation Medal, American Campaign Medal, World War II Victory Medal, Navy Occupation Service Medal, China Service Medal with four stars, United Nations Service Medal, and the Vietnam Service Medal with three stars. He also was awarded the Vietnam Cross of Gallantry Army Level with Bronze Palm, Republic of Vietnam Presidential Citation, the Vietnam Campaign Medal with Device, the Korean Order of National Security Merit, the Republic of China Order of Cloud and Banner Second Class with Grand Cordon, and the Japan Second Class Order the the Rising Sun.

Admiral Hayward was born in Glendale, California, on May 3, 1924, the son of Mr. and Mrs. Payson Hayward. He is married to the former Peggy Keating of Medford, Massachusetts. They have two daughters, Colleen and Cynthia.

STATEMENT OF ADM. THOMAS B. HAYWARD, CHIEF OF NAVAL OPERATIONS

Admiral HAYWARD. Thank you very much, Mr. Chairman.

I would like to say Mr. Spence, thank you were very generous in your remarks and I appreciate them very much, indeed.

The last almost 4 years have been years that have been enjoyable as the Chief of Naval Operations. We have had some tough times together, but perhaps the most encouraging aspect of my assignment has been working with this committee. In particular, because of the confluence of our logic and persuasion, that we need to do better and do more, and that we have been seriously neglecting our naval force posture for much too long.

I know of no committee that has put more pressure on the Defense Department and on the Navy Department than this committee to insist that we realistically assess the trends of the last few years as we watched the Soviet Union build a very effective navy force and, at the same time, watched our commitment to our own naval force posture become most inadequate. You all have used the words time and again, "betting on the come," and you have put plenty of pressure on me and the Secretary of the Navy to do something about that. Each year it has been this committee and the Senate Armed Services Committee who have added to our budget that helped prevent that trend from being worse than it would have otherwise been.

You have added ships, aircraft, missile production, improved our readiness, and backed our people in a most important way which has given all of us in uniform great encouragement that we were not going to fall drastically behind. And now we are supporting a budget that represents a very courageous step by this administration at a time when it is perfectly clear there are serious economic strains to be dealt with; and there are valid demands on our country's taxpayers to meet commitments elsewhere that are domestic, I fully understand that.

At the same time, I believe it is my responsibility to work with you to make certain that we appreciate the defense implications of our budget, and the implications of cutting back on defense at this particular time.

Certainly, the Navy has said many times, so aptly so, if we do not start now, when are we going to start? Are we going to put off an additional year? What kind of signals will that send to the Soviets, or our allies? Industrially, what kind of signal will that send to the contractors of this Nation, who at least for the moment, believe in us and think we have started off in a new direction that more, from a business base, the intelligent way of procuring things? Now is the time to stick with this budget and get these programs moving ahead.

There is a persistent criticism that says we are throwing money at defense, that Navy is getting the major portion of the budget, that this maritime strategy that we are espousing so strongly is taking away from the rest of our defense needs. That is a patently false conclusion. If one examines the precise outlay growth from 1981 to 1982 to 1983, you will note that the Navy's rate of growth at the least among the services. I am not saying that in any criticism of the other services needs, but I would like to deal with the idea that this desire to regain naval superiority is preventing other defense requirements from being addressed realistically, because it is not.

We have to get back to a naval superiority position. We have discussed in the past the loss of that superiority. Recall my testimony last year when I said we have lost that margin of superiority. This administration, working with the Congress, wants to regain it as rapidly as possible.

Our present plan will probably get that back in my successor's successor's domain. Maybe we will be fortunate enough to regain it in the next 4 years, but it will take a commitment to stay with it. We cannot start out by cutting back now.

If we look at aircraft procurement, we are asking for 288 airplanes, and that is the largest we have seen in a number of years, but still less than required to maintain the force structure. As we build toward our 13th and hopefully our 15th airwings, that number will actually have to go up somewhat. So even the aircraft procurement line is not yet where it ought to be.

We have a tightened budget and there are many production lines not producing as much as we would like. They are merely affordability constrained, and the same thing is true of the shipbuilding line.

We have 18 new ships that we are asking for this year. That is a restrained shipbuilding request. We could very nicely go for another SSN or two and get going with our orders at a faster pace. We need them badly.

We believe the logic of going for two aircraft carriers in 1 year is convincing, not just in the requirement for them, but in the business sense, saving the taxpayers significant amounts of money over the long haul.

Going for two Tridents in 1 year is critically important to our strategic posture. Delaying a Trident because of concern over the high upfront costs in one particular year simply says we are going to put off our strategic Triad's modernization when we ought to be pressing on with it, particularly the sea-based leg, the best leg of the Triad, the most invulnerable leg of the Triad, the most proven leg of the Triad which ought to be supported and not considered as a way in which to save funds for the future. So I support, obviously, very wholeheartedly, this budget that the President has sent forward.

I think it is a tough budget. It is big money, I acknowledge that. But we will have to support it for several years running if this country is serious about controlling the Soviets, is serious about regaining our maritime superiority.

Written Statement of Adm. Thomas B. Hayward

CNO OVERVIEW

Mr. Chairman, I am pleased as always to have the opportunity to present to this committee my overview of the United States Navy. This year's budget is, in my judgment, particularly critical to the interests of the United States as the leader of the free world.

This is a time in which it is clear to all that there are strongly competitive demands for our Federal Government's limited resources. In the context of burgeoning defense budgets, there are conflicting pressures to meet domestic needs. However, these needs must be addressed with full awareness that we live in a period when, if there is any clear signal for the decade ahead, it is that the risk of conflict is high and increasing. As one assesses the dramatic growth in our principal adversary's military strength, overlaid on his aggressive and adventuristic foreign policy, it should be equally clear that the security interests of the free world have seldom, if ever, been more demanding.

The price of security has always been high and the consequences of war have never seemed more terrible. Hence, our resolve to maintain the peace cannot safely be allowed to be diluted by competition from other national priorities, however valid they may be. The alternative high cost of war always has and always will outstrip the financial burden of maintaining the peace. Therefore, our responsibility today is to maintain our security posture in such a way that no nation, however desperate, will choose to test our capabilities. Yet, should deterrence fail to preserve the peace, we must always have adequate strength to assure an outcome that preserves our independence and freedom. Naval superiority is a vital adjunct to these objectives.

Secretaries Weinberger and Lehman, testifying earlier, have made it very clear that it is the policy of this administration, to restore maritime superiority to the United States. They appreciate the strategic truism that possessing maritime superiority is fundamental to the achievement of the national military objectives of our Nation. They also recognize that it will take several years to make up for the decade or more of inadequate investment in our naval strength.

One of the most encouraging things to me in the past three years as Chief of Naval Operations has been the "sense of Congress amendment" in section 782 of the 1982 Defense Appropriations Act in which you made clear the congressional position that a larger and stronger American Navy is needed as an essential ingredient of our Armed Forces.

It is clear that the Congress of the United States wants, expects, and, in fact, demands that this Nation have naval forces superior to any adversary who might challenge us, especially when our allies are considered in the balance against the Soviet Union and its allies. Section 782 went on to say that "in order to conduct the numerous and growing missions of the modern American Navy, a goal of naval inventory of approximately 600 active ships of various types by the end of the century at the latest, is highly desirable . . ." The issue before this body now is not the need for maritime superiority or the size and capability of our Navy, but how best we can get from here to there. The Navy Budget for fiscal year 1983 is a major indication of this administration's commitment to those agreed goals.

The Department of the Navy's budget before you totals $88 billion in obligational authority—$80.7 billion for the Navy, and $7.3 billion for the Marine Corps. Within the Navy total, another $4.5 billion is programed for direct Marine Corps support. The Navy budget reflects an increase of $18.7 billion over the $62 billion for fiscal year 1982. Navy outlays for fiscal year 1983 amount to $60.9 billion, $9.8 billion over the $51.1 billion in fiscal year 1982. An investment of this size must be made wisely if we are to maintain the progress we all desire toward restoring our naval strength.

A guiding principle that has dominated the planning of the Navy during my tenure as Chief of Naval Operations has been "whatever size our Navy is destined to be, let's ensure that it is the very best that it can be." In other words, the decision as to whether we will have 10, 12, 15, or more carrier battle groups rests largely with the people of America and the Congress, not with the uniformed leaders. The naval leadership can only tell you what you ought to have to minimize the risk. Whatever the decision might be on your part as to how large a navy the country can afford, we must have a first-class navy—a navy that is ready—a navy that is properly equipped—a navy that can sustain itself in combat—a navy that is manned by trained and competent people—remembering always our primary mission is to conduct prompt, effective, sustained combat operations. Thus, the Navy's 1983 budget has been formulated in such a way as to provide balanced investment choices among four broad elements: readiness, sustainability, modernization, and force structure.

The Navy budget resources associated with those force capability elements for fiscal year 1983 compare with those budgeted in fiscal year 1982 as follows:

NAVY FORCE CAPABILITY

[Dollars in billions]

	Fiscal year 1982		Fiscal year 1983	
	Amount	Percent	Amount	Percent
Readiness	33.4	54	39.1	48
Sustainability	3.4	5	4.0	5
Modernization	9.9	16	12.7	16
Force structure	15.3	25	24.9	31
Total	62.0	100	80.7	100

Readiness, as the top priority program, shows continued growth in fiscal year 1983 and receives the largest amount of budget dollars. Sustainability and modernization remain relatively stable in terms of their share of total dollars. The biggest increase, $9.7 billion, occurs in force structure.

Fiscal year 1983 represents a significant year of growth for the Navy. Real program growth in TOA amounts to 21.5 percent for the Navy budget. That growth must be put into perspective however. For one thing, the growth is critically needed to make up for the past shortcomings I mentioned earlier. In addition, there are several unique factors to be considered in order to have an understanding of the unusual growth in fiscal year 1983. First, Navy is budgeting for two CVN's in fiscal year 1983 versus the former plan of one each in fiscal year 1984 and fiscal year 1986. This revised plan achieves both reduced costs and earlier delivery. Second, the fiscal year 1982 program contains no trident SSBN's while fiscal year 1983 has two. These programs account for 13.5 percent of Navy's real growth. Leaving those two programs aside, Navy real program growth is 8 percent. Another 4.1 percent of real growth is attributable to changes in budgeting and to Navy support of Marine Corps programs. After allowing for those considerations, the remaining real growth in navy programs is about 3.9 percent.

Let me briefly address this matter of real program growth for the Navy budget in another way. Real program growth can be assessed in terms of budget outlays rather than TOA (total obligational authority). In outlay terms, the Department of the Navy real program growth for fiscal year 1983 is 9.9 percent. The Navy estimate, not including Navy resources that support the Marine Corps programs amounts to 9.2 percent for fiscal year 1983 and results in an average of 5.6 percent real growth over the period fiscal years 1981–83. In as much as the overall DOD growth is 10.5 percent, it is clear that the maritime superiority strategy is not adversely impacting on other service needs, contrary to popular belief.

STRATEGIC FORCES

The fiscal year 1983 budget applies roughly 7.8 percent of the Navy's resources to strategic warfare. This percentage will increase over the next 5 years as we add a number of Trident submarines, currently programmed at six more, and provide for their modernization with the development of the Trident II, D–5 missile. The D–5 will provide not only the opportunity to greatly improve our range and payload, but also the accuracy previously available only in land-based ICBM systems. Our strategic program also makes significant strides in the strategic command, control and communications network.

FORCE STRUCTURE

One of the most encouraging developments in the fiscal year 1983 budget and 5 year plan is the major turn-around in the shipbuilding and aircraft procurement programs, which contrast sharply with those submitted in the past several years.

We are proposing new construction of 133 ships over the next 5 years. Of these, 60 will be major combatants. A ship construction program of this size carried to its conclusion will assure the sustained growth of the fleet beyond the 556 ship limit of previous plans. A major feature of our budget is our request for two large deck, nuclear-powered aircraft carriers (CVN). By contracting for two CVN's in tandem, we are aiming for major production and procurement economies and expect to shorten the normal 7-year production time by about 2 years. These new CVN's will enable us to attain a force of 14 carriers. Other new combatant ships include two *Los Angeles* class nuclear attack submarines, three CG–47 Aegis class cruisers and two *Perry* class frigates.

Reactivation of the remaining three *Iowa* class battleships is planned over the next 3 years and our budget provides for reactivation of the second. Each of these will be equipped with both Harpoon and Tomahawk missiles. New construction *Los Angeles* class submarines will be Tomahawk capable, beginning with SSN–719 scheduled to deliver in fiscal year 1985. In addition, the CG–47 and DD–963 designs are being modified to include Tomahawk in vertical launcher systems (VLS).

Marine Corps amphibious assault is unique—it is the only U.S. capability to insert and sustain significant numbers of heavy land forces ashore in a hostile environment. Adequate, survivable amphibious lift is essential.

Faced with the potential for significant block obsolescence of our amphibious force in the 1990's, we have pursued two separate ship construction programs in this year's plan. Construction of eight LDS-41's and introduction of a new class—LHD-1 will allow us to begin replacement of aging ships with modern vessels that can better accommodate the type of equipment the Marine Corps will need to accomplish its worldwide mission. Our procurement program makes some progress toward increasing our lift capacity to that required for simultaneous movement of a Marine Amphibious Force (MAF) plus a Marine Amphibious Brigade (MAB).

Construction of mine warfare ships providing deep ocean countermeasures capabilities continues with funding requested for 4 units in fiscal year 1983 and 9 additional over the program years.

The principal advantage of the U.S. Navy over all potential adversaries is our domination of the air. Much emphasis has been placed on preserving and enhancing our superiority in this area. Fighter and attack aircraft force levels will be expanded as a result of our procurement plans. This year's plan represents nearly a threefold increase over what we were able to achieve from fiscal year 1977 through 1981. Navy and Marine Corps squadrons will be modernized with the introduction of the F/A-18 Hornet in large numbers. Increased procurement of the Marine Corps AV-8B is funded.

Our aircraft procurement plan is more than 75 percent larger than the one submitted last January, providing procurement for roughly 1,900 aircraft including 288 in the budget before you. For the first time as CNO, I am able to report to you that our 5 year plan provides procurement of more aircraft than we expect to lose through attrition or retirement. Procurement at these levels is needed if we are to provide for the continued modernizing of existing air wings, and to "stand up" a thirteenth wing in fiscal year 1983 and a fourteen by fiscal year 1987. In my judgment, the future of naval aviation is bright and we should continue to dominate maritime airspace for the remainder of the decade and beyond.

The details of our ship and aircraft plans are appended to this statement in tabular form. The strength of these plans lies not just in the number of platforms to be procured, but more importantly in the broad qualitative improvements they provide to our total warfighting capabilities. I am satisfied that our ship and aircraft procurement plans will provide for much needed improvements, and they will add significantly to our ability to meet the unique demands of maritime warfare.

MILITARY MANPOWER

There is much good news to share with the Congress this year with respect to the military manpower situation in the Navy, in stark contrast to the alarm I registered with you during the 1979 and 1980 congressional hearings. You will recall that we were experiencing the poorest retention in years, and more and more ships and aviation squadrons were reporting C-4 readiness, due almost soley to the absence of sufficient numbers of qualified personnel. One commanding officer so short of required talent even refused to get underway. What a different picture we see today. It is a pleasure indeed to be able to report to Congress that in the last 14 months, or so, there has been a major turnaround in the attitude, morale, and retention of our experienced careerists, in large meaure as a result of congressional support.

In my judgment, there are three principal reasons for this change in direction.

First, for the past 18 months or so there has been a growing awareness on the part of the American public in favor of personnel serving their nation in uniform thus fostering a sense of awareness and appreciation that has not been felt by military people for many years. In his recent state of the Union address the President declared that military people are proud to wear their uniforms again. He is so very right.

Second, and surely most importantly, has been the combined effect of the two military pay bills which were enacted by the Congress in 1980, and again last year in the 1982 bill. The effects of increased basic pay to levels which approach those that existed at the time of the creation of the All-Volunteer Force, the new variable housing allowance, the sea pay provisions, the willingness to reimburse military personnel for directed moves from one station to another and the improvements to selected reenlistment bonus have all had dramatic impact.

And third, the leadership in the Navy through the chain of command has been doing a very impressive job of running the Navy right. Attrition is down; desertion is down more than 30 percent over the last 2 years; and attitudes are up in every category. Sea duty extensions increased 58 percent last year over 1980 and requests for sea duty as a reenlistment incentive rose 33 percent. These are significant and healthy indicators.

My final observation with respect to military personnel is to reemphasize the tremendous admiration that I hold for our Navy people today—for what they are doing for this country. We continue to ask them to go on 7- and 8-month cruises. We continue to demand that they work extraordinary hours because of the shortage of talent within a given unit. We continue to order them to the Indian Ocean for periods of 50 and 60 days at a time without any shore liberty. We continue to expect them to be completely responsive to any contingency that might occur around the globe, and they are. They meet every challenge with inspired professionalism that brings great personal pride to me as Chief of Naval Operations. It helps me stand a bit taller every day.

The support that you have given them in the past has been crucial. That support must continue—must not wither—must not recede in the heat of budget debates. Without continued congressional support, we cannot hope to eliminate the present deficit in trained, experienced manpower. With congressional support, we can be completely optimistic about our ability to man the growing Navy that is so vital to our defense posture.

PROSPECTS FOR IMPROVEMENTS

In previous testimony before the Congress, I have been compelled to point out that the first two budgets of my tenure, 1979 and 1980, established data points that tended in the direction of certain and irreversible maritime inferiority if continued. When the 1982 budget was assembled and submitted a year ago, I was placed in the most uncomfortable position of being unable to support that budget because it would have marked yet another, the third, data point in the same unacceptable trend, perpetuating the downward spiral toward capitulation to the Soviet naval challenge. Happily, 1 year later I can point to two new data points: The 1982 budget is amended by the new administration, and the proposed fiscal year 1983 budget which is before you.

From all appearances, the message has been received—the "sense of Congress" resolution for a 600-ship Navy fortuitously finds itself in congruence with the new policy of the executive branch, which gives one considerable hope that we have turned the corner, that we are well along the road toward rebuilding required naval strength. Given the commitment to maintain this impetus over the remainder of this decade, I am now encouraged that I will be able to turn over to my successor a navy that has momentum, building toward a goal of 15 carrier battle groups, 4 battleships (which in themselves provide a unique opportunity to create flexible surface action battle groups), a force structure of 100 or more nuclear attack submarines, enhanced and modernized amphibious forces, a revitalized and modernized mine warfare force, an enhanced sealift capability which for the first time in decades will give us the ability to respond flexibly and promptly wherever necessary around the globe, and an effective maritime prepositioning force. Taken together, these programs, properly supported and maintained, should assure that my successor's successor will see the restoration of U.S. maritime superiority around the globe, regardless of Soviet achievements in the meantime.

I am acutely aware that we are asking you and the public to support a large increase in the numerical and qualitative strength of the United States Navy. But it is essential that this be done on an expedited and continuing basis. I am confident that this renaissance of emphasis on maritime strength and strategy represents, in its most basic terms, a recognition by the American people and by their elected representatives, of what is required to assure the protection of this country's most fundamental interests.

The Congress will determine the ultimate size and quality of the Navy we will have. But the Navy is fully sensitive to our responsibility to the taxpayer to spend our allocated resources efficiently. Whatever the size of the fleet that results, you can be sure that we will do everything in our power to make it a first class, professional navy—one that is ready, sustainable, and manned by the most highly trained and dedicated men and women.

DEPARTMENT OF THE NAVY 5-YEAR PLAN—AIRCRAFT PROCUREMENT AND NUMBER OF AIRCRAFT

A/C	1983	1984	1985	1986	1987
A-6E	8	8	12	12	12
EA-6B	6	6	6	6	6
F-14A	24	30	30	30	30
AV-8B	18	30	48	60	60
F/A-18	84	96	108	132	132
SH-2F	18	18	18	18	
CH-53E	11	11	11	14	14
SH-60B	48	64	74		
SH-60 (CV Var)				64	64
AH-1T		22	22		
P-3C	6	5	5	5	5
E-2C	6	6	6	6	6
UC-12B			12	12	37
C-2	8	8	8	8	7
T-44				15	
HXM					6
T-34C	30	28	28	28	30
TH-57	21	21			
C-9		2	2	2	2
F-5E		4	4	4	4
VTX				12	24
ECX			3	3	3
Total	288	359	397	431	442

SHIPBUILDING

	1983	1984	1985	1986	1987
New construction:					
Trident	2	1	1	1	1
CVN	2				
SSN-688	2	3	4	4	4
CG-47	3	3	3	4	4
DDG-51			1		3
CGN-42					1
DD-963				2	1
LSD-41	1	1	2	2	2
LHD-1		1			1
FFG-7	2	2	2	3	3
MCM	4	4	5		
MSH-1		1		5	5
AD				1	1
TAO	1	3	4	4	6
AGOS		1		2	3
AE			1	2	1
TARC				1	
ARS	1	1			
AOE			1	1	2
Subtotal	18	21	24	32	38
Conversion/reactivations:					
CV SLEP	1		1		1
BB (React)	1	1	1		
TAGS (Conv)			2		
TAGM (Conv)				1	
TAHX(C) (Acq)	1	1			
TAKRX	4				
TAK (FBM) (C)			1		
Total	25	23	29	33	39

Mr. BENNETT. Mr. Spence.

Mr. SPENCE. I move we go into executive session for the purpose of receiving national security information today and one subsequent date at the direction of the Chair.

Mr. SCHAFER. Mr. Bennett.

Mr. BENNETT. Aye.

Mr. SCHAFER. Mr. Spence.

Mr. SPENCE. Aye.

Mr. SCHAFER. Mr. Mollohan.

Mr. MOLLOHAN. Aye.

Mr. SCHAFER. Mr. Emery.

[No response.]

Mr. SCHAFER. Mr. McDonald.

Mr. MCDONALD. Aye.

Mr. SCHAFER. Mr. Trible.

Mr. TRIBLE. Aye.

Mr. SCHAFER. Mr. Hutto.

Mr. HUTTO. Aye.

Mr. SCHAFER. Mr. Dougherty.

Mr. DOUGHERTY. Aye.

Mr. SCHAFER. Mr. Foglietta.

[No response.]

Mr. SCHAFER. Mr. Hartnett.

[No response.]

Mr. SCHAFER. Mr. Dyson.

Mr. DYSON. Aye.

Mr. SCHAFER. Mr. Hertel.

[No response.]

Mr. SCHAFER. 8 ayes.

Mr. BENNETT. If we need to go into executive session in this session, we will.

General Barrow.

BIOGRAPHICAL SKETCH OF GEN. ROBERT H. BARROW

General Barrow was born and reared in Louisiana. He attended L.S.U., the University of Maryland and graduate school at Tulane University.

He was commissioned in May 1943 and served during the latter part of World War II with a Chinese guerrilla force which operated extensively in enemy occupied territory in Central China. After the war, he remained in China for another year.

During the Korean conflict, he participated in the Inchon-Seoul operation and the Chosin Reservoir campaign as a rifle company commander.

During the Vietnam War, from 1964 to 1967, he served as the Plans Officer, Fleet Marine Force, Pacific, and later, as an Infantry Regiment Commander whose regiment participated in numerous combat actions in the vicinity of the DMZ, Khe Sanh and A Shau Valley.

General Barrow has served seven tours of duty in the Far East. He has attended two Marine Corps schools and the National War College.

He was Commanding General for three years of Marine Corps Base, Camp Butler, Okinawa, and then served as Commanding General, Marine Corps Recruit Depot, Parris Island, South Carolina, for 32 months. He was assigned as Deputy Chief of Staff for Manpower, Headquarters Marine Corps, in July 1975, and served in that capacity until October 1976 when he became Commanding General, Fleet Marine Force, Atlantic, Norfolk, Va.

General Barrow was the Assistant Commandant of the Marine Corps from July 1978 until he assumed his present office on July 1, 1979.

His personal United States decorations include the Navy Cross, the Army Distinguished Service Cross, the Defense Distinguished Service Medal, the Silver Star, three Legions of Merit, two Bronze Stars and the Joint Service Commendation Medal.

General and Mrs. Barrow are the parents of five children.

STATEMENT OF GEN. ROBERT H. BARROW, COMMANDANT OF THE U.S. MARINE CORPS

General BARROW. Historically, you have always had a good Marine Corps, high in spirit and training hard.

We have also been historically deficient in many areas such as modernization. One might say that we have historically been supplicant over in the executive part of the Government and it has been the Congress who has repeatedly bailed us out—and keeping us alive and well.

Having said that, starting last year with the amended budget and continuing in this year's budget, there is more promise, more to be encouraged about, more excitement than I have experienced in my 40 years as a Marine. This budget will go a long way toward making the Marine Corps the most viable it has been in years.

That could raise the question, what are you going to do with it? What is its usefulness? In close association with the Navy, the Marine Corps is capable of doing many things. And in this uncertain world, with all of the many treaty obligations that we have, we need the kind of capability resident in naval forces to provide global reach.

We are instruments of diplomacy and deterrence, and, if need be, we will fight. It is in that area that we have needed help and this budget, as I said earlier, holds great promise that we are going to significantly correct some of our deficiencies and provide for a Marine Corps that we can all be assured will fully measure up to what might be expected of it in the future at some distant place.

I don't have much more to say, other than to say that we are experiencing an unprecedented improvement in the quality of our people. We have always been good, and I suppose, a few years ago we didn't think the quality could be better; but, we are better now than we have ever been. For example, 1980 was a good recruiting year; however, 29 percent of the people recruited then would be ineligible by today's standards, and we are still getting the numbers. Reenlistments are up and the spirit is high. We are training all over the world—at any given time you will find us in all corners of the world.

I am very optimistic about the future, and I am encouraged by the budget which is before this committee and which I so wholeheartedly support.

Thank you, sir.

WRITTEN STATEMENT OF GEN. ROBERT H. BARROW

Mr. Chairman, distinguished members of the Committee:

I am pleased and privileged to have this opportunity to express my views on Seapower in general and, in particular, that which is the stock in trade of your Marine Corps, force projection.

We in the Naval Service are gratified by the decision of the Administration and the Congress to revitalize this nation's Naval forces. I am equally gratified with the perception that there is national recognition of the need for strong Naval forces, and that, in great part, is due to increased Congressional encouragement and support. We thank you.

Seapower, the instrument by which a nation influences its destiny through control of the seas, has been, and continues to be a key element of this nation's military strategy. That strategy, as set forth in the Defense Guidance and with the continuing support of Congress, will return this nation to a position of unquestioned maritime superiority—a position that is vital to the growth, prosperity, and defense of this nation, as well as that of our allies.

Maritime imperatives are not confined to military objectives, but are identified across the entire vista of our national institutions: military, diplomatic, economic, and commercial. The geopolitical realities of our position as leader of the free world, our maritime heritage, and the economic dynamics of our way of life are the raison d'etre of maritime superiority and Seapower.

We are an insular nation with interests, both economic and political, far distant from our shores. As such, we must be assured free and unthreatened access to the vital sea lines of communication by reason of military and commercial necessity. While free access is not at issue today, the Soviet Union and her proxies threaten that access and are rapidly improving their capabilities to challenge and deny it. We must counter that threat by reestablishing clear maritime superiority and through the decisive application of Seapower, whenever and wherever required.

Beyond the maintenance of free access through the sea lines of communication, our naval forces must possess the means to provide the nation with a credible deterrent capability as well as a potent, flexible, and rapidly responsive offensive capability, should deterrence fail.

A global maritime strategy requires balanced naval forces. These forces must be capable of influencing both the regime of the sea, and of extending that influence ashore for both offensive and defensive purposes. Amphibious forces, the Navy/Marine Corps team, are instruments of diplomacy and deterrence, as well as offensive power projection. Inherent mobility and sustainability permit amphibious forces to concentrate the requisite combat power at the times and places required and then, upon completion of the task, to move on and apply their capabilities elsewhere. A balanced naval strategy provides not only the formidable air power projection capabilities represented in carrier air groups, but also the ground/air projection capabilities which are integral to the amphibious task force.

Naval amphibious task forces represent this nation's most viable forcible entry capability. Indeed, that capability is our most unique and significant contribution to the nation's defense. Our forces can seize and control strategic choke points and entry points, as well as establish advanced bases.

In employing amphibious task forces, theater commanders have at their disposal a flexible and powerful combined arms capability which can either operate independently or integrate their capabilities with other Service and allied forces for joint/combined endeavors. I am confident you recognize that such global reach and flexibility can take maximum advantage of Soviet vulnerabilities, and are, therefore, vital to our defense.

Amphibious warfare, our fundamental mission, is the most complex among the four combatant functions identified in Title 10 of the U.S. Code. This complexity stems from the fundamental characteristics of amphibious warfare. First, are the complexities associated with launching and supporting our operations almost entirely from the sea. Second, are the considerations attendant with starting from zero, relative to combat power ashore, and the requisite build-up of that power to those levels necessary to the accomplishment of a given mission. Third, is the requirement for the total integration and coordination of effort between the diverse agencies participating. These agencies incorporate every aspect of naval warfare: surface attack, anti-submarine warfare, air combat, assault shipping, and the air-ground components of the landing force, to name just a few. The harmonious combination and application of their capabilities is, I can assure you, a demanding task.

However, the same characteristics which underlie these complexities are the root source of the value, utility, and effectiveness of amphibious operations. Launching our attack from the sea, permits us a degree of mobility and flexibility unattainable with a land-based force. We choose the time and place of the attack and, thereby, enjoy a significant advantage in terms of surprise and our ability to exploit the enemy's vulnerabilities. Moreover, the global reach inherent with seaborne forces creates a significant force multiplier in the strategic equation. By their very presence, amphibious forces pose a strategic distraction to our foes. In so doing, we influence his tactical decisions, disrupt his operational capability and flexibility, and divert or constrain his forces. This, in view of the vast littorals he may be compelled to defend, must be regarded among this nation's most valuable strategic assets. And finally, because we initiate and sustain our actions from the sea, we are not bound by the economic and political constraints attendant with basing, over-flight rights, or the need for secure ports. We open our own doors by power projection through forcible entry.

The considerations relative to starting from zero combat power ashore at the initiation of our actions, compel us to organize our forces so as to achieve the optimum composition of capabilities. Then, by the combined and coordinated application of those diverse capabilities, we maximize the synergistic effectiveness of the air-ground, combined-arms teams inherent to all Marine Air-Ground Task Forces (MAGTFs). However, in order to maintain our unique capabilities, an investment is required and, to that end, I will outline just what that investment will produce.

The Marine Corps' programs are directed at enhancement and modernization across the entire spectrum of our unique capabilities. Product improvements and the acquisition of new infantry weapons will increase firepower by 25 percent. Anti-armor capabilities will be enhanced by increasing the current weapons inventory, and the introduction of the MK-19 44mm machine gun and the Mobile Protected Gun System (MPGS). Artillery units are to be strengthened through conversion to the M-198 155mm howitzer, addition of target acquisition batteries, and introduction of precision-guided projectiles. Introduction of the AV-8B will significantly enhance the responsiveness with which we provide close air support to ground units. The Corps' battlefield mobility will be increased markedly with programs such as the Light Armored Vehicle and the High Mobility Multi-Purpose Wheeled Vehicle. Additional mobility enhancements will result when the CH-53E program is complete, and with the initiation of a program to replace the current medium helicopter fleet. Finally, the capability to direct and control Marine Air-Ground Task Forces will be greatly improved through acquisition of the Position Location Reporting System, the Marine Integrated Fire and Air Support System, and the Tactical Air Operations Center.

Navy programs of special interest to the Marine Corps, in addition to aviation programs, are those which are directly related to amphibious warfare: amphibious shipping, Landing Craft Air Cushion (LCAC), naval gunfire, and medical support.

Recognizing that "getting there" is half the fight, the Department of the Navy has established a firm goal: to acquire sufficient amphibious shipping to transport, simultaneously, the Assault Echelon (AE) of a Marine Amphibious Force (MAF) and a Marine Amphibious Brigade (MAB). Attainment of this goal will permit the simultaneous undertaking of two significant amphibious operations in separate areas of the world.

Unfortunately, the total current inventory of amphibious ships, contained in both the active and reserve fleets, falls far short of the MAF(AE) plus MAB requirements, and I am greatly concerned. The attainment of our stated lift objective is, at best, a long-range proposition—and it is threatened by the approaching "block obsolescence" of our current amphibious fleet. All but six of the current inventory of active amphibious ships are scheduled to leave within the next twenty years. Postponing their orderly replacement invites higher costs and build rates, and that, just to maintain the status quo. More critically, such delays entertain higher military risks than I consider prudent.

As a result, the Marine Corps maintains high interest in two current shipbuilding programs: LSD-41, for which the first keel (USS Whidbey Island) was laid last August; and LHD-1. LSD-41, the first amphibious ship to be started in five years and the first to be funded in ten years, is designed to carry the LCAC, as well as conventional landing craft. We need more of these ships to replace the aging well-deck ships which carry our assault craft. The LHD-1, a conceptual, general purpose amphibious assault ship, is needed to replace our aging LPH-2 Class helicopter assault ships. The LHD-1 will significantly increase our total lift capability, provide a flight deck for both helicopters and VSTOL aircraft, and offer a well-deck for both air cushion and conventional landing craft.

The Navy's LCAC program represents a conceptual and technological breakthrough in ship-to-shore movement. The keen interest the Marine Corps has in this program intensifies as the program continues to develop. The LCAC's capabilities are well known: speed up to fifty knots, sixty ton (or better) payload, extensive operating ranges, accessibility to 70 percent of the world's littorals, and both across-the-beach and inland capability.

Let me turn now to naval gunfire, a deficiency which also concerns me greatly. Naval gunfire provides the primary means of fire support before artillery is established ashore. Presently, there are no new gun or gunfire-related programs in development or production. The five-inch, semi-active laser guided projectile, in conjunction with the Seafire targeting system, could alleviate some of the problem. In addition, a conceptual 155mm naval gun promises increased range and lethality as well as commonality with Army and Marine Corps ammunition. I strongly support continued exploration of the potential of these systems.

Reactivation of the IOWA Class battleships will reintroduce major caliber guns now missing from the Fleet. At a cost significantly lower than new construction for a lesser ship, activation of the USS *New Jersey*, along with the three remaining IOWA Class battleships, will provide massive firepower capability.

Finally, the Fleet Hospital program will provide definitive care medical facilities in all major medical specialties. It is designed to provide a full range of medical services, within or near the combat zone, for direct support of Navy Fleet units and Fleet Marine Forces. These large, self-contained, portable units will give emergency life-saving care and serve to help in addressing the existing serious shortfalls in Navy medical support. I urgently request Congressional support for this vital Navy program.

At this point I would like to address briefly, other programs which improve our capability for rapid response. Prepositioning programs are designed to enhance our strategic mobility and our capacity to sustain our Marines once employed. While this concept is not a substitute for our capability to conduct amphibious operations or our vital need for increased amphibious lift, it does provide significant enhancement to our ability to deploy rapidly and to stay and fight once we get there.

First, are the Near-Term Pre-positioning Ships (NTPS)/Expanded Near-Term Pre-Positioning ships (ENTPS) and the Maritime Pre-positioning Ships (MPS) programs. Our concern for the nation's ability to move forces rapidly has been central to our planning for reaching the crisis arena expeditiously, ready and equipped to carry out our assigned mission upon arrival. For the Marine Corps, rapid deployment means readiness and on-scene presence with credible, sustainable forces. Such forces complement our amphibious assault forces in deterring conflict, or in successfully concluding operations. Our maritime pre-positioning initiatives are currently tailored to support the deterrence mission within the Southwest Asia (SWA) region but, as the program develops, will be applicable to worldwide contingencies. The Military Sealift Command charters thirteen ships to support the NTPS/ENTPS program for the SWA region. Acquisition and conversion, or new construction, of ships suitable to this mission for three MPS flotillas is essential to the evolution and early operational capability of maritime pre-positioning.

Second, the Marine Corps continues to program resources to pre-position equipment in Central Norway—supplies and ammunition for a MAB in order to expedite NATO reinforcement. Pre-positioning will enhance our commitment to NATO and afford the National Command Authorities the option of committing Marine force quickly.

Having addressed the programs to enhance our capabilities and readiness, I would like to turn briefly to the glue which holds them all together, our individual Marines. Our ability to deploy rapidly and accomplish our mission, wherever and whenever called, depends on quality individuals who can endure rigorous training, accept firm discipline, respond to sound leadership, and perform with intelligence and adaptability. Our quality has never been better. This continuing emphasis on quality has resulted in lower attrition, fewer disciplinary problems, and progressive improvements in our career force since more highly qualified individuals are eligible to reenlist and are doing so. All this adds up to a ready, motivated, capable force.

In closing, Mr. Chairman, I would reemphasize that the establishment of unquestioned maritime superiority through the decisive application of Seapower, whenever and wherever required, is vital to the interests of world peace. Seapower represents more than control of the oceans. It also represents the capability to project power beyond our shores to places far distant and often remote. Your Marines provide a wide range of capabilities, but our stock in trade has always been, and continues to be, our capability for forcible entry. In today's world, only two places exist where the United States enjoys force presence on the ground: in the central region of Europe and on the Korean peninsula. At any other location where our presence might be required, we must necessarily start from zero. The programs I have outlined for you today will foster and improve the Marine Corps' capability to open the way through forcible entry. We stand ready now, as always, to provide our unique capabilities in meeting the challenges of tomorrow. Continued Congressional support will provide the means for development and improvement of those capabilities. You may be assured that we will make every endeavor to capitalize on that support. Thank you.

That concludes my statement Mr. Chairman, I am prepared to respond to your questions.

Mr. **Bennett**. I guess we will have a regular inquiry at this time, and I will address a couple of questions which any of you can answer if you want to.

It would seem to me to be vital to what we do on the floor. There are two issues that I hear about, and I would like to have whatever information you would like to give us on these, if you can.

One of them is the battleships, and the other one is the carriers. When you fought real hard to get 1 carrier, you got that, now, isn't it sort of strange to ask for two carriers in 1 year, and isn't there some way in which you can accomplish the reduction in cost of the two carriers by having a multiple buy or something short of putting it all in this bill?

We will have to address this on the floor, because there will be amendments of various kinds, and I believe what I have heard from the testimony so far is that in order to be really credible, you have to do something that is definite enough where you know that you are going to be able to buy these ships, and that is at the heart of why you need to buy two in the way that you asked to buy them rather than any other sort of device.

Secretary **Lehman**. I won't dwell on the operational requirement for the two carriers. However, if we are to meet our commitments and the requirements given to us by the President, we need the carriers, and we need both of them in this 5-year plan. Both of them, ultimately, will actually replace two of the older carriers.

Eventually, the two CVN's buy will result in a building of the force to 14 carriers before the end of this decade but then shortly thereafter, the new CVN's replace the *Coral Sea* and the *Midway*, so they have to be bought anyway. If you are going to buy the two, then the business plan we have put forward is certainly the way to save the taxpayers an enormous amount of money. It is the sensible way to buy them.

The two CVN buy does not in any way impact on the outlay stream part of the budget deficit problem that Congress must deal with; whether or not they are fully-funded this year or bought one this year and one next year, does not affect fiscal year 1983 outlays but it does, ultimately, result in an increase in the total outlays over this next 8-year period by about $750 million.

GAO has been auditing those estimates, and I believe a report is due to you very shortly; I am confident that that GAO independent estimate, based on complete access to all of our data and all of the contractor data, will support, if anything, that $750 million is a conservative estimate of the savings to the taxpayer.

Full funding rather than long leading the second year does not impact the outlay stream. If Congress were to change the requirement for full funding of shipbuilding, then that could be done, but I believe that there is no apparent reason to do that for budgetary reasons, since it makes no difference to the budget deficit and the actual stream of spending the funds. Yet it does compromise what, I believe, is a very sound principle of fully funding ships in the shipbuilding account, because they take so long to pay out. It is important to have the money up front, so that commitments and prudent business contracts can be written for deliveries on a sensible time scale without worrying about the ups and down of annual authorizing and appropriating.

Full funding is a sound principle. Congress has supported it for good and sound reasons so, unless there is some obvious pay-off to drop full funding, I would recommend against it.

Also, there is a psychological impact. Part of the savings that we will see over and above what we have put in the estimate, will come from the drawing in of more competitive subcontractors, and suppliers for the subsystems. Once they see that there is going to be a program established and fully funded, they will take on the risk of spending the money, and it does cost money, to compare competitive bids for subservices, and so forth.

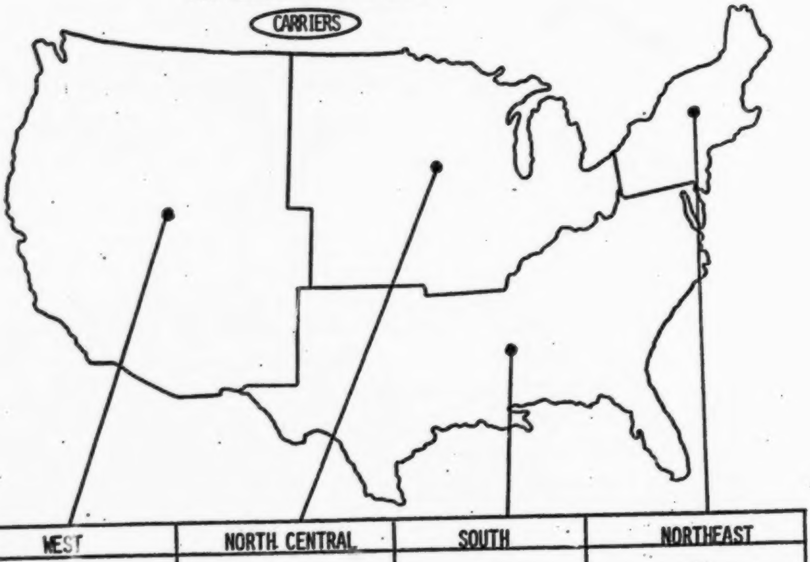
If the CVN's are not fullyfunded, we will see less of this benefit of drawing in bids from across the country. We will submit for the record the best estimate of where the dollars get spent for these two carriers and where the jobs are generated and, in fact, it spreads across the entire country, and the multiplier effect is enormous.

We estimate that each $1 billion of this $6.5 billion buy will create a minimum of 7 years' times 40,000 jobs. That is an awful lot of employment for this country, and it is spread around the country. It is not just in Newport News, by any means, but it is spread all over.

I would argue against the temptation to full fund one and long lead a second.

PROJECTION OF ECONOMIC DISTRIBUTION
FOR BUDGET APPROPRIATION

CARRIERS



	WEST	NORTH CENTRAL	SOUTH	NORTHEAST
% POP.	18	27	32	23
%$	8	19	51	22
$	0.5B	1.3B	3.5B	1.5B

SOURCE: ASN(S&L)RPE 24MAR82

Mr. **Bennett.** I am not going to pursue the battleship at this time, I hope somebody else will address that. I want everybody to have a good chance to inquire and somebody else may ask the same question I was going to ask.

Mr. **Bennett**. Mr. Spence.

Mr. **Spence**. Thank you, I am going to delay that, too. I want to make an observation for history or whatever. What a difference a year can make, talking about the carrier.

Some people don't realize that we had quite a struggle as alluded to by Admiral Hayward to get the last nuclear carrier. I remember we in Congress approved it on two different occasions, and it was vetoed on two different occasions, and the third time, the last administration promised to veto it again, and we almost did not even put it in the budget.

We finally decided, as the chairman remembers, that we would put it in the budget, and we also increased that budget by about five ships, as I remember.

We got on the floor and in the meantime something called Iran-Afghanistan happened and we got 100 votes more on the floor and the President for strange reasons decided that he would not veto it. So we came that close to not even having that last nuclear carrier. The Navy was in the position of not being able to fight too hard for it, put it that way, and so sometimes we see in retrospect, if we hadn't done certain things, we wouldn't be as far along as we are.

I am delighted to see that we are asking for two carriers this time, and we have the administration and the Navy and everybody else backing us on it. I hope that it will go through Congress the same way and I think it might be a lot easier, if you do as you suggest, point out to the people the fact that we are having to fully fund these two big items won't mean that all the money is going to be spent in the way of outlays during this next year. It will be spread out over a period of time.

Something I started working on, people lose sight of the fact that this, the jobs created by construction of ships, the B-1 bomber and all the rest of these things mean a whole lot to people throughout the country.

I was amazed to find out, even though Newport News, Mr. Trible, shipbuilding is putting together these two carriers, that only really less than half of that money goes to that area of the country.

Most of it goes to the Northeast and Midwest subcontractors, the little companies' people don't realize are involved here, and so I am starting to campaign. We are going to find out all over this country where these little subcontractors are located for the B-1 bomber, handguns, tanks, and everything else, a[illegible] the people back home know they are involved in putting together our military.

With that, I would like to now ask a question about our so-called swing policy we have had, I guess, in the Navy for a while. We didn't have enough ships for a two-ocean Navy, so I understand we had a swing policy whereby we would hope the enemy would call everything off and let us transfer all of our ships from one ocean to the other ocean, if we can get them through the Panama Canal, and then start the whole thing over again.

Do we have enough ships now where we will alter that swing policy and carry on something in two different oceans at one time?

Admiral HAYWARD. That strategy of swinging from one ocean to the other and generally speaking, we were implying from the Pacific into the Atlantic, in support of our NATO first strategy, which has been dominant for 20-some-odd years or more. That swing strategy was generated at a time when we had over 900 ships. The Pacific Fleet was quite large, as was the Altantic Fleet. So it was not illogical to think—it would depend upon where the war started—that we would probably want to reinforce the Atlantic, which is where the Soviet Navy was dominant. There was very little, if any, Soviet Pacific Fleet.

In the last 10 years, that whole posture has changed dramatically. The Soviet Pacific Fleet today is as large as their Northern Fleet, that works the Atlantic. The U.S. Pacific Fleet today is less than half what it was in those days. The trade-off balance today is dramatic and more difficult.

I know you have heard from the Commander-in-Chief of the Pacific. He would be very disturbed if we stuck to the policy that said we were going to pull out what he has and put it some place else, when he also has the responsibility of the Indian Ocean.

Today, I believe that with this administration, it is clear that the swing strategy no longer is viable.

Mr. BENNETT. Mr. Dougherty.

Mr. DOUGHERTY. Mr. Chairman, I hope at some time in the future, we will have that hearing on sealift that was supposed to take place on the 18th.

Let me express to you, Admiral, my deepest respect and admiration for your tenure at the Navy. It has been a very difficult time, I am sure. You are leaving when things are getting better.

You and I have had our go-arounds on amphibious lift, but I do believe in a strong Navy.

You have my deepest respect and admiration and every good wish.

Mr. Secretary, where is the TAKX, what is the current status on that?

Secretary LEHMAN. Bids were received in January for the convert and charter, build and charter options for providing the sealift. We have had an extremely encouraging response from industry, in fact, far better than anyone predicted.

We have had some 16 Marine amphibious brigades' worth of lift proposed and I am sure the commandant will have new proposals next year to fill out all of those brigades but the fact is, without going into proprietary data that is sensitive in the competition, the numbers that we have seen and the quality of the proposals of some 56 ships that have been bid is exciting.

Mr. DOUGHERTY. Could we take it from that, that the Navy will aggressively move toward the construction or purchase and conversion or lease and conversion of the TAKX's?

Secretary LEHMAN. I would say, in fact, that when we are able to brief this subcommittee on the results of the competition, you will see that without this option, the chances of getting three MAF's in the time frame required is probably unachievable.

With this option, it should be easy and we are confident that we can demonstrate that the life cycle costs will be lower than if we had designed; constructed and acquired those ships through the traditional practice.

All of the contracts we eventually write, however, will contain the option to buy those ships if changes in economic assumptions indicate that it would be more prudent to actually purchase them rather than continue to lease them.

Mr. DOUGHERTY. The committee can go with every assurance that the Navy will move rapidly toward the purchase, or the bringing on line 12 to 15 ships that will be used?

Secretary LEHMAN. Yes.

Mr. DOUGHERTY. For the record, are the SL-7's primarily an Army vessel, or do they have the joint use?

Secretary LEHMAN. They are a national strategic asset to lift what the National Command Authority believes must be lifted in the time and whatever the crisis happens to be. We foresee using it to lift Army divisions and Marine forces.

Mr. DOUGHERTY. There is then no intention to preload them at any point in time?

Secretary LEHMAN. At this point, no decisions have been made as to what the load-outs would be.

Mr. DOUGHERTY. You are not going to preload in port?

Secretary LEHMAN. No.

Mr. DOUGHERTY. You want two Tridents this year. It has been testified before this subcommittee that actually if you build two this year, you will only get 4 months ahead of when it normally would be delivered to the Navy if you went on a 1-year construction basis.

Is that 4-month timeframe correct?

Secretary LEHMAN. The issue really is, when are we going to start worrying about the disappearance of the numbers necessary to keep an adequately deployed sea-based leg of the Triad? In the early nineties, we are going to start having to retire Poseidon boats at the rate of five per year, because that is the rate at which we built them.

We are now arguing about one or two per year, and in those days, we were building seven a year.

Mr. DOUGHERTY. The Trident is a much more capable ship.

Secretary LEHMAN. True, but under the current program we put forward, you will see a shrinking of numbers from 41 boats down to about 20 boats in the late nineties.

They will have more power and more target coverage than the 41 boats by a long shot, but there still is a question of how many AIM points you have; we need to get on with building more Trident submarines to have 2 Tridents deployable early in the nineties or a prudent way to maximize the cost savings from stable employment and long lead procurement and planning up at the Electric Boat Yard.

I think the decision should not be considered in months but in the instability that a break in long lead would bring.

Mr. DOUGHERTY. I know my time is up, but could I have an answer to the point I made. Are we not talking in effect a 4-month early delivery on the second boat by authorizing two this year?

Secretary LEHMAN. Let me supply that answer for the record. I know that that has been the estimate of some and I am not sure that top management has actually blessed that estimate, so let me go back and supply it for the record.

[The following information was received for the record:]

Second "Ohio" Class SSBN

The exact cost and schedule implications can only be estimated at this time, but it is fair to surmise that a deferral in authorization of one *Ohio* Class ship can affect the delivery and cost of at least three ships, the 10th through the 12th. The two *Ohio* Class submarines requested in fiscal year 1983 are the 10th (SSBN 735) and the 11th (SSNBN 736), as well as fiscal year 1984 Authorization of the 12th (SSBN 737). The Navy holds fully priced options for the 10th and 11th ships which are valid through February 1983. Current schedules and cost estimates are:

[Dollars in millions]

	Delivery	End cost
Fiscal year 1983:		
SSBN 735(10th)	August 1988	$1,416
SSBN 736(11th)	April 1989	1,352
Fiscal year 1984		
SSBN 736(11th)	April 1989	1,693

Failure to fully fund the SSBN 736 (11th) would slip this ship to fiscal year 1984. Assuming a 1-1-1-1-1 profile is retained, SSBN 737 (12th) would slip to a fiscal year 1985 authorization. The revised schedules and end costs are estimated to be:

[Dollars in millions]

	Delivery	End cost
Fiscal year 1983: SSBN 735 (10th)	August 1988	$1,416
Fiscal year 1984: SSBN 736 (11th)	do.[1]	1,693
Fiscal year 1985: SSBN 737 (12th)	do.[1]	2,301

[1] This optimistically assumes the necessary authorizations will be completed in time to support ship awards in the first month of each fiscal year (October). This also assumes a shorter construction period (70 months award to delivery) than Electric Boat has demonstrated to date.

As shown above, if the 11th ship (SSBN 736) is deferred to fiscal year 1984, the ship would deliver a minimum of 4 months later, the 12th ship (SSBN 737) would deliver a minimum of 8 months later and all subsequent ships would deliver a minimum of 12 months later. Also, as shown above, the end cost of the SSBN 736 would be at least $341 million more if procured as a fical year 1984 ship. Of this amount, $225 million is directly attributable to not exercising the existing priced option.

Mr. Bennett. Mr. Dyson.

Mr. Dyson. Mr. Secretary, it is good to see you in Washington. We saw each other just recently in Baltimore.

Admiral Hayward, on behalf of myself and everybody here on this committee, we are going to sorely miss you, and General Barrow, it is always nice to see you.

Maritime superiority seems to be the theme of the Navy now, and I think that certainly every member of this subcommittee wants to support the best shipbuilding program that the Navy can devise.

As you mentioned, and as Congressman Spence mentioned, shipbuilding, whether it comes through the Navy or whether it comes through the private sector, has a tremendous multiplier effect on the economy, and that was one of the things we tried to impress upon you that day in Baltimore at the shipyards.

I think that probably one of the things that has concerend us quite a bit, certainly it has concerned me and I am also on the Merchant Marine Committee, is the demise of our commercial shipbuilding capabilities over the past 20 years and again, that was emphasized on the trip to Sparrows Point and Bethlehem Steel recently.

Mr. Sawyer, who appeared last week, visited my office and we talked about the situation at Baltimore.

He discussed this idea, the charter financing concept possibility of maybe the Navy, Sparrows Point and Bethlehem Steel becoming involved in that and he also indicated the Navy would be pursuing that.

My question is today, I have some concerns about the cost of direct procurement versus the lease and charter arrangements. Would you just a minute comment on that?

Secretary LEHMAN. We have had independent analysis, in-house analysis of the costing of converted charter or leasing construction, and build and charter options, and they all look good to us. It is at least a wash on life cycle costs, but if we see interest rates go down, as all of us in the country hope and many of us are confident they will, then it is clearly more cost-effective to lease a convert and charter, build and charter than to procure commercial quality shipping, support shipping, drydocks, that kind of thing.

Mr. DYSON. The SL-7 conversion program may be used to maintain some of the marginal shipyards on the east coast, and this has been said time and time again.

I will give you a very parochial interest here, could some of those overhauls be directed to the Sparrows Point yard?

Secretary LEHMAN. When I answered that question during my visit to Baltimore, I was accused in the press of blackmail.

Mr. DYSON. I read that in the paper later, too. I didn't interpret it that way.

Secretary LEHMAN. It is cold fact, not blackmail, that if we are not going to get the support of Congress for the naval expansion that we have put forward, and I might say many of your colleagues from the Baltimore delegation have not been prominent in voting for naval expansion programs in the past, but if we are not going to get the support, and we do suffer cuts, then we are going to have to face up to the fact that at least four or five of our current yards that do overhaul and work, are going to have to go out of business. We will have to face up to that and decide which of the ones we are going to move promptly to save in a more limited environment, because if we have a 600-ship Navy, we are going to need that much more industrial base to overhaul, repair, and maintain a 600-ship Navy than we will if we stay at our current level of 480 ships. It is in that context that we have to look at the Baltimore yards.

We can't save all the yards that are in trouble.

Mr. DYSON. You emphasized that day that we were in Baltimore, and I don't think this should be an exercise in who is trading support for what, but you do have three members of the Maryland delegation who do sit on the Armed Services Committee and who have all been tremendous supporters of the Navy program and will continue to be.

There is that concern that one of the largest shipyards in the country is virtually going to be faced with going under, and as it was presented to you that day, 3,500 work force down to 1,700, maybe down to 80 by just within a couple of months, and I think that that is happening there. I know it is happening in some other shipyards on the east coast and it will have a dramatic impact on this, as you design it, this whole theme, this whole schedule of maritime superiority.

Secretary **Lehman**. Let me say that I understand your concerns, and I did not mean to imply lack of support from you and your two colleagues on the Armed Services Committee. We have valued tremendously the support you have given to the Navy. We intend to move without any delay, cutting through the normal pace of decisionmaking to get a decision within the near future on whether or not we can justify obtaining another drydock.

Assistant Secretary George Sawyer sees some strong arguments for doing that, and, as you know, one of the problems that was pointed out to us, when we were up in Baltimore, is the split bidding requirement for overhauls that derives from congressional mandate with small business set-asides, that is something that does not give us a great deal of leeway. We understand your problem and you have my personal pledge that we will cut through all the delay and try to see that a decision is made to expedite such work as may be competitively done up in Baltimore. We will do it in time to make those decisions before we lose the work force up there that would make the recovery possible.

Mr. **Dyson**. Let me thank you again for coming, and Secretary Sawyer, he went one step beyond, and I appreciate that.

Mr. **Bennett**. Mr. Mollohan.

Mr. **Mollohan**. Mr. Secretary, you mentioned in your comments to Mr. Dyson the responsiveness of the Congress to the needs of the Navy, and sometimes there are some of us here in the Congress who are concerned somewhat about the responsiveness of the Navy to the suggestions, and to what is enacted into law by the Congress.

I cite a couple of programs, the Seafire, and the MK-92 were of concern to many of us here. We produced $17 million for Seafire and you, the Navy, without consulting the Congress, which has been the custom for some time, unilaterally reprogramed that $17 million from Seafire.

On the MK-92 program, we have in the last couple of years, the two authorizing committees, both Senate and House, and the Appropriations Committees have appropriated funds to move forward with upgrading the MK-92.

In that instance, nothing has been done there.

Secretary **Lehman**. Yes, sir. Mr. Mollohan, the Seafire, 5-inch guided projectile is a useful case study of what is wrong with the way business was done in defense, all too often in the past. It is the kind of practice we are simply not going to participate in in the Navy any more, and that has to do with the insidious practice of some contractors, what we call, buying in.

Let me give you a brief track history of the decisionmaking on the 5-inch GP and Seafire. Although Seafire experienced into bad overrun problems and we are not satisfied with the management of that development program, we don't know what it is finally going to cost, but still it is dependent entirely for its justification on the 5-inch guided projectile. There is no point putting a Seafire onto a ship if you don't have a guided projectile, but the real problem is with the 5-inch guided projectile.

I have no accurate way to comment on what went on before I came into this job but, when we started to look at this system, we set up a program review and this was done on July 8 of last year. At that time, the program office, based on estimates provided by the contractor, which I believe was Martin-Marietta, briefed us that the average unit cost for this program was $44,000 a round or less for the first 500 rounds, and that there would be a tooling cost of $12 million.

I was persuaded, that it was worth the money so, in July, I sent a letter to the chairman of the Armed Services Committee, stating that I would go forward, if the unit cost, I am quoting from the letter, was less than $44,000 a round in fiscal year 1981 dollars, and that I was committed to the program. Mr. Battista of the Armed Services Committee staff agreed that this was a reasonable position to take.

Then, when it finally got down to brass tacks of signing a contract in November during the program audit prior to making a production decision, the contractor revealed to us that the Copperhead tooling, which had been the assumption in the earlier price, was not really applicable and instead of $12 million, we have to spend $60 million up front on tooling and, after that, the average unit cost for the first rounds would be $101,000 a round, not $44,000. Then we received, in December, Martin-Marietta's preliminary proposal and their proposal was $130,000 a round for the first 173 rounds, and tooling costs of $60.2 million.

At that point, I was incensed, and I thought this was a crass case of either mismanagement in the contractor not knowing between July and December what the costing was or conscious buying in. At the price of $130,000 a round for the first buy, it was an unaffordable system, and so I stopped the program in December, made a preliminary decision, told our managers to prepare the reprograming proposals to Congress and to prepare to recommend transferring the funding out of the 5-inch GP and the Seafire, without prejudice.

On February 10, the Martin-Marietta Co. submitted a new proposal asking us to take another look at it. They came in with a price of $60,000 per round for the 915 first buy rounds. We responded that it may be attractive if we get the promised learning curve benefits for later rounds and so we made a proposal to them. While $60,000 a round was still 50 percent overrun from the July estimate, we said we would be willing if we could get the whole buy for the $44,000 rounds, with a procurement contract on a fixed price contract. If you are willing to put your money where your mouth is and assume the risk of a fixed price contract, we will sign up for the program. They said no, they would not assume the risk and underwrite the $60,000 per round cost with a fixed price contract and so, in effect, where we left it with them is, when you can afford to build this program at a price that we can afford, then we, without prejudice, will sit down and talk multiyear procurement. We are willing to put the money up front for multiyear procurement and that is where it stands today.

Obviously, Congressman, we are well aware of the right of Congress to authorize and appropriate, and even after we reclama, if the reclama in the form of reprograming is not accepted, and you go ahead with what I believe is a wasteful program, we will comply.

We have sent reports to Congress requesting reprograming authority, and this is subject to congressional approval in the fiscal year 1982 supplemental and the major reprograming actions, so this is our strong recommendation, and it is my tentative decision.

Obviously, we can be overridden and if the reprograming is not approved, and we are directed to buy into this open-ended commitment, obviously we will carry it out but I would strongly recommend that that not be done.

Mr. **Mollohan**. Thank you.

Mr. **Bennett**. Mr. McDonald.

Mr. **McDonald**. Mr. Secretary, let me join in welcoming you before the subcommittee, and I would like to say that if there is any laggered attitude toward defense commitments in the Baltimore area, in particular, or maybe the State delegation in general, that Georgia has three men on the Armed Services Committee, House and Senate, and we will certainly welcome you down our way and guarantee you a solid State delegation support. I think you will find the same in South Carolina.

If you have any problems locally, come on down South, the weather is better and a lot of other things are, too.

I was also pleased to hear my colleague from South Carolina refer to a nuclear carrier. I didn't know whether that had a transition, well, the change of administration did improve that.

General Barrow, reading your biographical sketch last time, I was impressed by your earlier career. You said you served with a Chinese guerrilla force.

Which group was that?

General **Barrow**. These were Nationalist-recognized guerrillas in central China.

Mr. **McDonald**. General, I don't think we really go into it today, but dealing with the RDF, I still have a lot of concerns about the Rapid Deployment Force and am concerned about a mixed group, mixed command, and scattered resources, whether the Navy wants to be put together for political reasons or honest plans for follow-through.

I am sure the Marine Corps has been in and out of the debate. In your personal opinion, do you feel RDF draws its strength from multiple units with maybe multiple command structure? From a military point of view is that going to give you the best type of capability? And with that in mind, I know, the RDF in the Iranian desert affair, I don't know whether you are allowed to talk about that now, but if you are, I would appreciate your personal opinion on that particular composition of a mixed force, and whether that was a properly handled affair.

You have extensive background, and as a leader of men in dangerous circumstances, and also a planning officer in Vietnam, I am curious about your personal opinion on that.

I always felt it should be under a single command, single everything else, and I don't care whether you put paratroopers, Army, Special Forces, or Marines, I have a little bit of a prejudice, but nevertheless, this idea of having come from multiple sources and fall together properly, I never heard of anything done that way, but I would like to have your personal opinion on that.

General **Barrow**. In my personal opinion, I think that we have to in large measure, make a judgment with respect to what the threat is and what the task is to be performed against that threat.

One can visualize certain threats with such large dimensions that we need everything we've got, and more. We are not simply in that instance being so much driven by the desire to have things joint as we are by the need to marshal all of our efforts to deal with that particular problem.

I can think of any number of situations wherein the forces of a single service, perhaps a Navy-Marine kind of service arrangement, would be sufficient to deal with the problem.

I can also visualize situations in the upper scale—starting out in sequential fashion, which is not unusual, and we have done these kinds of things—in which someone has to do certain things that have to be done first.

Naval forces in the Indian Ocean, which could be added to, could seize those critical facilities up front well before the entire multiservice forces might ultimately be required and before they would get there.

That is a sequential mission involving a naval campaign, followed by a land campaign involving all services.

It is a very complex thing, and no one can be very specific about it, because we are dealing with the unknown—the threat, and the specific tasks that might be required attendant to that threat.

I do have some concern about the propensity to make every undertaking joint. It violates a basic principle of war called simplicity, and creates coordination problems that often get to be quite onerous.

That is why I believe if a given task can be achieved by a single service, I will be the first to stand aside and say please do it. And I also believe things can be done sequentially without everyone trying to get in the first transportation to get there.

Back to your question on the Desert One operation. In that particular instance, to achieve the full capability required, it must necessarily had to be multiservice.

The failure cannot be ascribed to command arrangements. It was a failure due to the weather phenomenon which did not permit the helicopters to carry out the mission.

Mr. **Bennett**. Mr. Trible.

Mr. **Trible**. First, a personal word to Admiral Hayward.

You have been a very able and effective Chief of Naval Operations. It is my judgment that you chartered a positive course for the Navy through stormy times, and I am pleased, Admiral, that you can all look at the picture with greater confidence. It has been a great personal pleasure for me to come to know you, and I value our professional association over these last years. My best wishes go to you and your lovely wife, Peggy, in the days ahead.

Let me pose a couple of quick questions, if I might.

I know that the 1983 shipbuilding and conversion program advanced to Congress is a finely balanced program representing the needs of our Navy, and Marine Corps, and as we take a hard look at this proposal, your sense of priorities would be quite helpful.

Could you tell us what the highest priorities are in this shipbuilding proposal?

Admiral HAYWARD. I guess that comes up every year. You want to know which I want to add first?

Mr. TRIBLE. It comes up in a somewhat different posture this year, but I have asked that question before, and you know it is asked as a friend of the Navy.

Admiral HAYWARD. My basic priorities have not changed from prior years. I believe that the most important shipbuilding program ongoing at the moment is the CG-47, that the Aegis cruiser is the most important new dimension required. Therefore, let us not tinker with that program. I would like to see four in there instead of three, and our original plan had us moving in that direction. We should be building four CG-47's every year until we meet our force level objective. That is the first order of priority.

In my judgment, the carrier would come second, and both carriers because it makes such good business sense to procure both at once. The requirement to build to a 15-carrier-battle-group Navy is very clear to me and other professional naval officers. We believe that is a minimum force posture to carry out the role that we are asked to do, and the present 12-carrier-battle-group Navy is a very high-risk force.

In building toward 15-carrier-battle groups, you have to do it in a balanced way, so you have to bring along the other ships, people, and the weapons that go along with it. The increased cost of that investment should be done in a balanced fashion. I would support a carrier next.

I am very troubled by any concern over cutting back on the Trident submarine, and reading this morning's paper, and the action the Senate Armed Services Committee took yesterday with respect to the MX certainly must provide a renewed interest in making sure that the sea-based leg of the Triad keeps progressing as rapidly as we can afford it. That is where the hardened target capability resides in the sea-based side, with the Trident II missiles.

The 688 submarines, we have never been building them rapidly enough since I have been Chief of Naval Operations. Every year, we have been talking about doing more, and fortunately you have done much to keep that production program reasonably efficient, but it is not meeting the requirement. If we are going to reach our goal of 100 attack submarines, we must be averaging three or more per year, and of course, we have averaged less than two per year for the last several years, so that clearly is an important program.

I have difficulty stacking these priorities up one after the other.

In our amphibious programs, we have marched off in a new direction to modernize that force. The LSD-41 is moving ahead well, but one a year is not the right number. We don't want to cut back in that area. The LHD is a new development, a new concept that has tremendous potential in providing increased amphibious flexibility, as well as a usefulness in other situations that would be less than a major war where we can use it as an air-capable ship.

We have been behind for years in mine warfare and we are just this year beginning to build up the force posture. We are going to have to do that for a number of years.

We have dropped off the Tagos this year to go to a different design.

I have trouble saying this one is more important than that one. It is a very tightly structured building program. Our oiler force structure is in very poor shape, relatively. We have to get on with building more oilers. I can't find anything in there that says this is the way you ought to cut this program back.

Mr. **Bennett**. Mr. Emery.

Mr. **Emery**. Thank you very much, Mr. Chairman.

Admiral, Mr. Secretary, I noticed the other day that a statement was made by Mr. Sawyer that we needed a supplemental of some $80 million in order to move ahead with the second sourcing of the Aegis ship.

Give me an update on where we stand on that, and whether or not the failure of the 1982 supplemental will affect that?

Secretary **Lehman**. Congressman, the second sourcing of the Aegis ship is one of the most important business initiatives in the program, but it is also an important industrial mobilization initiative as well, because we are also asking for, as you know, the beginning of a major new program, as was mentioned earlier, for our new destroyer.

This destroyer will be an Aegis-type ship. We simply can no longer afford to depend on only one yard capable of building that kind of a ship, but the first initiative and the justification for it this year, rather than some other year, stands on the commonsense requirement to get competition into such an important program.

As the CNO has said, we should procure Aegis at four a year. I could never support going below three. The system is just too vital to our naval force to deal with the threat.

In the judgment of every expert from the business world and the shipbuilding world that has looked at it and we have made a judgment that, without question, there are major cost savings to be had by competition.

This is no aspersion on the productivity at the Pascagoula yard, but commonsense disciplines are enforced by competition that are simply not there in an uncompetitive environment. Our estimate of what it will take to set up the infrastructure when the competition for source selection is completed is $80 million.

The first ship that is built by that second source will probably have an end cost somewhat higher than the latest ship being produced by Pascagoula, because it will be the lead ship for that second yard.

Mr. **Emery**. That will be the learning curve?

Secretary **Lehman**. A learning curve, yes, but many of the bidders on the second source tell us that they are confident that they can offset any learning curve of premium deficiencies. We will see. My guess is it will cost a little more, with a comparable time frame, for the Pascagoula yard, but every ship thereafter at both yards will be lower-cost from that point on. The $80 million is important.

Mr. **Emery**. I guess the question I really wish to follow up on after your very fine background and support for the second sourcing, is the question, where is the $80 million going to come from? It has been suggested that it might be part of a 1982 supplemental, and in the event the 1982 supplemental does not materialize, is it adequate to put that additional money in the 1983 bill, and assuming that if either one of those happens, assume it is in 1983 and not 1982, will the Navy continue ahead with the second source in finding the money?

Secretary **Lehman**. We will certainly continue ahead with the second source. This is a question that runs across everything we have in the supplemental. It will cause a great deal of dislocation, waste, and mismanagement if we don't get that money this year, because it is committed money. These are fact-of-life increases, inflation effects. These are things that we are going to have to do. We will have to get approval for various reprograming efforts and go back into contracts and try to get the changes in terms and so forth. It has happened many times in the past, and the Navy is not going to go out of business if it happens again, but it will result in higher cost to the taxpayer if this supplemental gets shoved into the 1982 line.

Mr. **Emery**. Second sourcing will go forward?

Secretary **Lehman**. Without question, we will go forward with second sourcing regardless.

Mr. **Emery**. Moving on to another subject, can you give me some detail about the nature and direction of the Navy's Material Development program, with particular emphasis on the development of strong, lightweight composite materials for use in shipbuilding applications?

Secretary **Lehman**. Well, as you know, Congressman, we have made a great deal of progress in incorporating composites into our aircraft construction. The F/A-18 and AV-8B are leaders in composite technology and there is a great deal of promise in that technology. We are now looking at applications of those kinds of technologies to submarine structures, to reduce weight and get the kind of resiliency and fatigue life for those parts of submarine structures where composites are appropriate.

In surface ships, we also believe certain structural members can incorporate composite materials because they have, in many cases, greater strength than steel at a far lighter weight than aluminum. So while right now, pound for pound, it is considerably more expensive. We see the cost coming down steadily as the industry tools up and explores new applications for it; we see a lot of promise in the submarine world and the surface ship world for the applications of aerospace technologies of various materials and we are putting a lot of R. & D. money into that area.

Mr. **Bennett**. I believe this is the second round. The reason I am asking this question is because some people on the floor, they had corresponded with me to raise the question about the battleship, because it is an easy target to say you are going back and look at history and not looking at modern problems. I wanted to have a cost-effective analysis of why battleships made sense in 1982, so when it occurs on the floor I will have a good answer.

Secretary **Lehman**. Well, Mr. Chairman, we put into the record last year a very active defense and explanation of why this is, in my judgment, the best deal I have ever seen in the Government, what we learned in the past 12 months just greatly increases our enthusiasm. We have now been working on the *New Jersey* since May. As you know, I have a very strong personal commitment to see that this ship is delivered on time and on cost. Saturday, a week ago, we brought her out of drydock, a week ahead of schedule. So, technically, we are ahead of schedule and on cost.

Mr. **Bennett**. The committee is interested in what you are going to use them for.

Secretary **Lehman**. We are going to use the battleships for the application of power to naval tasks wherever in the world they are required. They bring to a naval task force, for whatever task put together, an enormous capability in firepower, strike warfare, and the kind of platform to deliver that firepower, whether against sea targets or land targets; they are so survivable that it enables a commander to go into harm's way with confidence that he can deal with the threat.

Equipped with cruise missiles, Harpoons for antiship, Tomahawks for both antiship and land attack, 16-inch and 5-inch guns, and air defense weapons, the battleship is a very, very formidable and cost-effective platform costing, as you know, about the price of a new frigate, which does not have anything approaching the capability in firepower that the battleships will have. It is really one of the best good deals for the taxpayer that one can imagine.

Mr. **Bennett**. Some people—though I don't see the pertinency to this particular hearing—some people have raised the question about building smaller submarines. We are not building enough submarines in this package anyway, in my opinion.

So, I don't really believe you could build a small submarine logically in 1982. But people have asked me about why aren't we building smaller, less expensive submarines. I don't think they are suggesting we should not have the submarines now in this bill.

But the suggestion is, why don't we look at that? Or have you looked at it?

Secretary **Lehman**. We have looked at it. We continue to look at it and spend a good deal of effort in monitoring technologies and building programs in Germany and elsewhere; we stay quite current with the state of the art. Diesel electric submarines have a role to play, particularly with our European allies.

Mr. **Bennett**. How about small nuclear submarines?

Secretary **Lehman**. Small nuclear submarines are a possibility for the future. But, right now we are sticking with the 688 as an optimum design because we need those submarines to do a wide range of attack submarine tasks.

Mr. **Bennett**. I am afraid my time is up. This is a question that has come up among my own constituency. You may not have the answer. You may want to give it for the record. At Kings Bay, which is not actually my district, but across the river, some people in my district were doing business there, and they found out the small business set-aside, which they don't object to at all—these are larger type businesses—they say that the way in which the law is being interpreted, in addition to the small business set-aside, there is something in the law that says that small businesses should be given a preference, even above that.

These are large business people. They say, as a practical matter, that means the large businesses cannot indulge in this at all. Therefore, you are cutting off, in addition to the small business set-aside, large businesses from bidding on some of these projects.

Do you know anything about that at all? I wouldn't expect you to know it. But could you get it back for the record?

Secretary **Lehman**. I will provide that for the record. It is a problem.

Mr. **Bennett**. Maybe the law should be adjusted. If you are cutting off very competent larger concerns from even bidding, when you are not dealing with the small business set-aside, that seems to me to be counterproductive as far as getting costs down for the Navy.

I wish you would look at it and give me that for the record.

[The following information was received for the record:]

KINGS BAY

The Navy has investigated this issue and is unable to identify any procedures involving the use of small and small disadvantaged business programs at Kings Bay that have unjustly precluded participation by large business concerns.

Kings Bay issued eleven solicitations estimated at $8.9 million to small firms under small business set-aside procedures, and three solicitations estimated at $21.8 million under unrestricted competitive procedures. To date bid response from small firms has been excellent, resulting in competitive prices and good quality products.

When and where appropriate the Navy will continue to seek opportunities for, and award contracts to, small and small disadvantaged business firms pursuant to the provisions of the Small Business Act.

Admiral **Hayward**. Mr. Chairman, could I infringe on some of your time and expand on the battleship a little?

Mr. **Bennett**. Yes; I wish you would.

Admiral **Hayward**. I would like to make a couple of points that I think are terribly important. In no way do I want to show any lack of support for the battleship in anything I say, because I am great enthusiast for it, I was personally involved in a lot of work inside the Department of Defense to get this concept understood as to what it can do. I am a very, very strong supporter of it.

Lately, there has been more and more talk about battleships replacing carriers. I am very concerned about that logic and the potential it has toward suggesting we really don't need to build up our carrier battle groups, that we can substitute battleships for carriers. In no way does a professional naval officer accept that logic.

Mr. **Bennett**. It is more of a user, isn't it?

Admiral **Hayward**. I hope there is the day when we get all four of these battleships back in and modernize them the way in which we can. The potential is there to make them tremendously capable offensive warships, and that is what our whole concept is.

There may be a day when you can put a couple of battleships together with a couple of Aegis cruisers and [Antisubmarines Warfare] ASW ships and employ them very, very effectively in a high threat area, when you do not have enough force structure to be everywhere at once. It will be a sensible thing for a tactical commander to do.

That is what our concept is leading toward. We are talking about the late eighties or even the nineties before that kind of battleship has been modernized and that flexibility is in force.

But there is no comparison in the offensive striking power of a carrier battle group and a battleship of the type we are bringing back. What we are planning to use the battleship for initially is for a surface action group, which would be very effective to send into low threat areas. The battleship that we are modernizing is going to have Tomahawk and Harpoon missiles with it, and it will have the associated ships as the commander sees necessary.

For instance, in the Caribbean right now, there would be lots of opportunities to use a battleship where we literally don't have a carrier to do the job. We might not want to have to employ two or three carriers. We could send one or two battleships to support other forces.

The battleship would support an amphibious operation in the best possible way. The battleship gives what has been said time and time again is so critically important, that is firepower for the Marines ashore or for getting them ashore, and that is one of the major reasons for bringing it back into the fleet.

It is a multiple capable ship that we will use in multiple roles in amphibious forces, in separate surface action groups, as part of a carrier battle group. But it is not a substitute for a carrier battle group.

Mr. BENNETT. Mr. Spence.

Mr. SPENCE. Thank you, Mr. Chairman.

Would you comment on the proposed merger of the MSC and the MTMC?

Secretary LEHMAN. Congressman, I think one of the most far-reaching and successful initiatives of this administration has been to roll back the McNamara reorganization that centralized power in the Pentagon, rather than treating the services as the chief operating agencies under the policy direction of the Secretary of Defense.

For the last 20 years, before this administration, more and more authority and responsibility drifted away from the services into a faceless centralized staff in the Office of the Secretary of Defense and, to a lesser degree and in a different way, the Joint Chiefs of Staff.

I think that, in no small measure, the desire to centralize is the development that has brought about so many of our ills and shortcomings today in our defense program.

Centralization for such vast enterprises that are so vastly different as among the services is, in my judgment, with very few exceptions, the formula for destroying management accountability and ending efficiency and good, sound policy and management.

I see this recommendation, to consolidate what are two totally different kinds of problems, military sea lift and land transportation, as a demonstration that that lust to centralize in the Pentagon never dies. It is a nonsensical proposal that will be sure to bring about disruption in the maritime industry, disruption in the Navy's ability to manage its shipbuilding and ship repair, disruption in the orderly movement of vital logistics in time of war, and real confusion in command authority. In my judgment, in time of war—with a rotating command that half the time would put an Army General in command of naval support forces that support the battle groups engaged, in addition to running the normal logistics is a proposal that has no merit.

Other than that, it is a great idea.

Mr. SPENCE. General Barrow ought to comment on that, too.

General BARROW. I must confess that out of ignorance, and probably in the interests of cooperating, I somewhat reluctantly supported it the first time it was run by. I didn't have all the facts. I have been persuaded by my illustrious superior that I was not thinking clearly. I agree with what the Secretary has said. And not simply because he is the Secretary.

Mr. SPENCE. Thank you.

Mr. BENNETT. Mr. Dougherty.

Mr. DOUGHERTY. Mr. Secretary, what does the Sidewinder missile cost?

Secretary LEHMAN. I will have to provide that for the record. There are different models and have different costs.

[The following information was received for the record:]

SIDEWINDER

The flyaway cost of the Sidewinder missile being requested in the President's fiscal year 1983 budget request is $75,492.

Mr. DOUGHERTY. Let's talk about the cost of the Sidewinder missile versus the cost of the 5-inch guided projectile, and start by saying other than 5-inch guns and the battleships which we may or may not get, and which may or may not be used for amphibious support, it is conceivable of course the battleship as Admiral Hayward said, could be on another mission. What do we have to protect the Marines when they hit the beach to knock out the armor and the heavy emplacements that they will face?

It is very obvious the 5-inch gun does not knock out armor. The 5-inch gun will not knock out a dug-in, firmly entrenched pill box kind of situation. It is great on the one hand to say that we told Martin-Marietta to go back to the drawing board and come up with something.

At the same time, we have a legitimate need to protect the Americans we are sending ashore. If we don't develop some kind of naval gunfire system I think we are asking an awful lot of the individual marine.

Secretary LEHMAN. Congressman, the weakest argument for the 5-inch GP is for Marine support against tanks. The strongest argument for the 5-inch GP, in for my judgment is the war at sea scenarios.

We have invested a great deal of money in gunfire support for the Marines. The four battleships contain six double 5-inch mounts, 16-inch guns, and I will supply for the record the number of 5-inch 54's that we have on our destroyers and cruisers.

[The following information was received for the recored:

5"/54 GUNS

The Navy has 245 5"/54 guns on cruisers and destroyers.

Secretary **Lehman**. We are not deemphasizing guns. We are improving guns and improving the MK-86 fire control system. The beauty of guns, and why I am a gun advocate, is their simplicity, and their reliability and their ability to put firepower on in any kind of weather, thick or thin, and it keeps working, no matter how few seamen you have of whatever skill levels and so forth.

What the Seafire does is goldplate, what is now a reliable gunfire support system, with two very highly complex, high-sophistication systems, and provides very little increase in kill probability for most of the targets you are going to take under fire.

Of course, it will kill a tank better than a plane—you don't kill tanks with gunfire, by and large. That is why we have invested so much money in the Marine Corps ARB's bombing system—the Maverick missile, the laser-guided bombs, the A-6E TRAM. They have plenty of systems to kill tanks. We don't need to ruin a good gunfire system by goldplating it at prices we cannot afford in order to add one more to the redundant systems we already have.

Mr. **Dougherty**. With all due respect to your point of view, I would suggest there are members of this committee, members of the staff who think quite differently. I think you will see there will be a strong effort made to address the problem of naval gunfire and not talk about 16-inch guns on battleships. We only have four battleships.

Let me ask some very specific questions just for the record.

Do you intend to SLEP the *Coral Sea* and the *Midway*?

Admiral **Hayward**. At the present time, there are no plans to do so.

Mr. **Dougherty**. Do you plan to SLEP the LPH's that will be block obsolescence within the end of this century?

Admiral **Hayward**. I think that is going to depend upon how our amphibious lift program moves along. Certainly, we are examining LPH SLEPS and properly should. The LPH's are still well under 30 years of age. The *Coral Sea* is 35, the *Midway* 37.

Mr. **Dougherty**. There are two separate points I am trying to make. Briefly, the Navy has testified it was the intention to SLEP the *Coral Sea* and the *Midway*.

Admiral **Hayward**. I don't believe so.

Mr. **Dougherty**. To extend the life—maybe not SLEP, but to maintain the *Coral Sea* and the *Midway* beyond the mideighties.

Admiral **Hayward**. Our present plans are to keep the *Coral Sea* going until she is 44 years old. That is a very optimistic concept.

Mr. **Dougherty**. What about the cruisers, Mr. Secretary? Is there any thought about the cruisers currently in moth balls, which have had an average life at sea of about 6 years.

Secretary **Lehman**. Those cruisers are an attractive mobilization option. We may, short of mobilization, want to look at them after we get the battleships reactivated. They are not in the current 5-year plan.

Mr. **Dougherty**. In the interests of time, General Barrow, would you submit for the record in your personal opinion the position of the Marine Corps on naval gunfire support?

[The following information was received for the record:]

NAVAL GUNFIRE SUPPORT

General **BARROW**. Adequate naval gunfire support is essential to the success of an amphibious operation in a hostile environment. Power projection should never be undertaken without an all-weather, 24-hour fire support capability. Before artillery is established ashore, only naval gunfire can provide this support.

Today's naval gunfire capability is inadequate. It is left to a dwindling number of 5-inch guns with conventional projectiles, which lack the range and lethality considered adequate to confront enemy forces and positions.

We need larger guns with greater range, accuracy, and lethality to destroy enemy formations and emplacements that we might expect as Marines initially secure their positions ashore. There is a devastating psychological impact on the enemy of accurate, lethal fire that can stop his formations and destroy his positions—especially when some of the rounds have such pinpoint accuracy to destroy tanks with first-round hits.

The 5-Inch Guided Projectile (GP) and Seafire Fire Control System (an electro-optical tracking and aiming device) would have regained some of the ground lost by the demise of major caliber guns in the Fleet. The 5-Inch GP promises first-round accuracy and kills of both stationary and moving targets—including tanks. However, both the 5-Inch GP and Seafire programs have been cancelled.

Bringing in the 5-Inch GP and Seafire programs would improve our current naval gunfire capability. The reactivation of all four battleships will return major caliber guns to the Fleet, but new gun development for all platforms presently equipped with the 5-inch gun should be pursued as a matter of high priority.

Mr. **DOUGHERTY**. Would you at this time answer these followup questions to Mr. McDonald?

In your personal judgment, you fought both in World War II, Korea, and Vietnam, is it not fair to say that the command structure in Vietnam was an instrument that created more problems than perhaps the forces in Vietnam needed?

If you would rather submit an answer, I will be very glad to have it.

General **BARROW**. I would rather not answer it at all.

Mr. **DOUGHERTY**. You just made my point. I think Mr. McDonald's point was well-taken. You are a very experienced field commander. It seems to me that there is a movement in this country toward the general staff concept, a movement in this country which says we are going to mingle all the different services together and eventually we will wind up with one.

I am very much concerned that in my judgment one of the problems with the Iranian situation was that you have a Marine pilot sitting next to an Air Force pilot in a helicopter who had never flown before, and you are putting him into a bad-weather situation.

I am not reflecting on the morale or capabilties of any of the pilots who participated in the Iranian raid. I think it is absolutely an absurd situation that we would have allowed to happen, a situation where you had, in fact, an Air Force pilot sitting next to a Navy pilot, or a Navy pilot and an Army helicopter pilot, a Marine helicopter pilot—how in the hell did we ever design a situation that said you could not put two people from the same services in the same helicopter.

I think it is exactly the point Mr. McDonald was making.

In this Nation, we are so concerned with who is going to get the turf and be there first, that we are screwing up the mission and costing people's lives.

I will take back my question. I won't make you answer the question. I think that Vietnam had some very bad lessons of where we were over-commanded. We mixed staffs and all that bunk. I am very much concerned that in any operation in the future, this country, particularly the RDF, we are going to wind up screwing up the mission, because of not talking to somebody else or because the Army wants to do this and the Marines want to do that.

I am not reflecting upon any person individually. I just think it is human nature, but the fact of the matter is the Rapid Deployment Force, as a concept, is really full of holes.

If you talk about the traditional employment of forces, where at the proper time you bring on command structures that are necessary to have an integrated force, I think that is one thing. But when you are talking about putting everybody in purple suits and going out with one grand design, I just think it is going to screw up the works.

Mr. **BENNETT**. Mr. Emery has a unanimous-consent request.

Mr. **EMERY**. First of all, Mr. Chairman, I ask unanimous consent to be recorded as voting aye on the motion.

Mr. **BENNETT**. So ordered.

Mr. **DOUGHERTY**. If the General wanted to comment on that point.

Mr. **EMERY**. I also have some questions to submit for the record.

Mr. **BENNETT**. Without objection.

[The following questions were submitted to the witness to be answered for the record:]

SECOND "OHIO" CLASS SSBN

Mr. **EMERY**. What, specifically, would be the effect on the program if the Congress were to refuse to fully fund the second Trident SSBN in the fiscal year 1983 request? Please address both cost and schedule considerations in detail.

Secretary **LEHMAN**. The exact cost and schedule implications can only be estimated at this time, but it is fair to surmise that a deferral in authorization of one Ohio Class ship can affect the delivery and cost of at least three ships, the 10th through the 12th. The two Ohio Class submarines requested in fiscal year 1983 are the 10th (SSBN 735) and the 11th (SSBN 736), as well as fiscal year 1984 Authorization of the 12th (SSBN 737). The Navy holds fully priced options for the 10th and 11th ships which are valid through February 1983. Current schedules and cost estimates are:

[Dollars in millions]

	Delivery	End cost
Fiscal year 1983:		
SSBN 735 (10th)	August 1988	$1,416
SSBN 736 (11th)	April 1989	1,352
Fiscal year 1984:		
SSBN 737 (12th)	December 1989	1,693

Failure to fully fund the SSBN 736 (11th) would slip this ship to fiscal year 1984. Assuming a 1-1-1-1-1 profile is retained, SSBN 737 (12th) would slip to a fiscal year 1985 authorization. The revised schedules and end costs are estimated to be:

[Dollars in millions]

	Delivery	End cost
Fiscal year 1983: SSBN 735 (10th)	August 1988	$1,416
Fiscal year 1984: SSBN 736 (11th)	August 1989 [1]	1,693
Fiscal year 1985: SSBN 737 (12th)	August 1990 [1]	2,301

[1] This optimistically assumes the necessary authorizations will be completed in time to support ship awards in the first month of each fiscal year (October). This also assumes a shorter construction period (70 months award to delivery) than Electric Boat has demonstrated to date

As shown above, if the eleventh ship (SSBN 736) is deferred to fiscal year 1984, the ship would deliver a minimum of four months later, the twelfth ship (SSBN 737) would deliver a minimum of eight months later and all subsequent ships would deliver a minimum of twelve months later. Also, as shown above, the end cost of the SSBN 736 would be at least $341 million more if procured as an fiscal year 1984 ship. Of this amount, $225 million is directly attributable to not exercising the existing priced option.

FFG-7

Mr. Emery. What would be the Navy's reaction to a proposal to reverse the five-year buy of FFG-7 frigates, thereby funding an additional frigate in fiscal year 1983 and fiscal year 1984, but funding one less frigate in fiscal year 1986 and fiscal year 1987?

Secretary Lehman. The Navy's five year shipbuilding plan has been structured to provide a balanced program within a given amount of dollars. Moving up the procurement of FFG-7's might not help the industrial base, since if we increased the number of FFG-7's in the near term, constrained resources would tend to force something else out of the shipbuilding plan. We are getting close to our FFG-7 force level object. Our current plan continues the FFG-7 program at a modest level and places greater emphasis on other ship classes which have more serious shortfalls in force level objectives. We could not support acceleration of FFG-7 procurement at the expense of other near term ships in our five year shipbuilding program.

Shipbuilding and Cost Increases

Mr. Emery. The Selected Acquisition Reports (SAR) for the quarter ending Dec. 31, 1981, show sizeable increases in two shipbuilding programs: $9.7 billion in the SSN-688, from $14.6 billion to $24.3 billion, and the CG-47 program, from $22.2 billion to $27.6 billion, an increase of $5.4 billion. Can you give the reasons for these increases?

Secretary Lehman. The increase in the SSN-688 program costs was due to the following factors:

	Millions
12 additional ships	+10,218.0
Revised escalation projection	+592.5
Fund installation of VLS on additional 12 ships and SSN 719 through 724 (previously authorized)	+586.9
Procurement estimating adjustments	−1,930.5
Increase in outfitting and post delivery due to program changes	+224.0
Total	+9,690.9

The increase in the CG-47 program costs was due to the following factors:

	Millions
Three additional ships	+$3,512.0
Revised escalation projection	+2,001.0
Delay one ship from fiscal year 1985 to fiscal year 1987	+77.9
Procurement estimating adjustments	−208.8
Increase in outfitting and post delivery due to program changes	+48.5
Total	5,430.6

Second Sourcing

Mr. Emery. Do you project ultimate cost savings from the second sourcing of the CG-47, or is this decision primarily an industrial base decision? (George Sawyer said that the second sourcing could cost more than $80 million.)

Secretary Lehman. The requirement for second sourcing is an industrial base decision which, through competition, will lead to ultimate cost savings over the period of construction of the CG-47 and DDG-51. The $80 million figure, to which you refer, is related to the fact that the fiscal year 1982 supplemental requests $80 million as partial payment for the additional costs which will accompany the new builder. A better estimate of these additional costs will not be available until after the shipbuilder is selected. Bids from prospective second source vendors have been received and are under study.

AIRCRAFT CARRIER NUMBERS INCREASE

Mr. **EMERY**. At what point will the decision be made to build more than 15 aircraft carriers? The Soviets are already building 80 naval vessels per year, and they are certain to increase this rate of production and deployment.

Secretary **LEHMAN**. I cannot project at what point this decision will be made. The decision as to how many carrier battlegroups we will build rests largely with the American public and the Congress. The naval leadership can only tell you what we should have to minimize the risk. I am confident that our programmed improvements for the next five years will contribute significantly in our efforts to rebuild our forces in the face of projected Soviet naval improvements. However, anything less than our programmed forces will present a high risk. Furthermore, as we continue to closely monitor Soviet naval improvements, we must be prepared to modify our requirements if we detect significant departures from our current assessments and projections.

MATERIALS TECHNOLOGY

Mr. **EMERY**. It has always appeared to me that the Materials Technology (MATTECH) Program was underfunded, particularly when we consider the potential for advanced technology breakthroughs in this area. What is the Navy's funding profile in this area for fiscal year 1983?

Admiral **HAYWARD**. Navy funding support for Material Technology has been keeping pace with, or ahead of, other technology areas. The funding requested in the fiscal year 1983 budget to support the Materials Technology Program element is:

Fiscal year:	*Thousands*
1981	$29,777
1982	33,121
1983	33,019
1984	35,875

MATERIALS TECHNOLOGY

Mr. **EMERY**. Does the Navy have a line item in the RDT&E request for Material Technology in fiscal year 1983?

Admiral **HAYWARD**. Yes, a total of $33 million has been programmed for Materials Technology.

LSD-41

Mr. **EMERY**. How would the Navy view the addition of an LSD-41 in the fiscal year 1983 shipbuilding program?

Admiral **HAYWARD**. We have structured our shipbuilding program to develop a balanced approach to meeting the shortfalls in our force level objectives. If a second LSD-41 were added to our current fiscal year 1983 request, it would allow us to increase our amphibious lift in the near term. However, we would not favor the addition of a second LSD-41 in fiscal year 1983 if it would cause the deletion of some other ship in the fiscal year 1983 program.

HEAVY CRUISERS

Mr. **EMERY**. Does the Navy plan to re-activate the heavy cruisers *Salem* and *Des Moines* and to build Surface Action groups around them?

Admiral **HAYWARD**. The Navy is conducting a survey of the two cruisers to determine reactivation and modernization feasibility and to estimate the cost of such an undertaking. The results of this survey are expected in August 1982. We have not developed any plans to build Surface Action Groups around the cruisers pending the results of the study.

BATTLESHIPS

Mr. **EMERY**. What is the most current cost estimate for the reactivation of each of the battleships?

Admiral **HAYWARD**. The current cost estimates for the reactivation of each of the battleships are:

	Millions
New Jersey (BB-62)	$326.0
Iowa (BB-61)	411.4

	Millions
Missouri (BB-63)	470.2
Wisconsin (BB-64)	458.5

Our current funding profile is:

Battleships

	Millions
Fiscal year 1981 and prior	$89.0
Fiscal year 1982	325.0
1983	417.4
1984	480.0
1985	354.7

BACKFIRE BOMBER THREAT

Mr. **EMERY**. The most grave threat to the carrier battle groups is the Soviet Navy's Backfire bomber with stand-off missiles. Can we effectively counter this threat, here and now, in 1982?

Admiral **HAYWARD**. High performance missiles launched from Soviet Backfire bombers do present a significant threat to carrier battle groups. [deleted]. Our anti-air warfare capability is based on tactical defense-in-depth. We depend upon early warning to position fighters to destroy most if not all of the attacking aircraft before they can launch their missiles. Our Navy E-2C and F-14 aircraft are our primary assets for the distant air battle, as well as for medium range engagements. If enemy aircraft or missiles do reach our inner defenses, we employ ship launched surface-to-air missiles and various [deleted] techniques to defend ourselves. This requires a high degree of coordination and tactical innovation. I am pleased to state that recent and ongoing tactical improvements are innovatively meeting this challenge.

In certain high threat areas, we would need [deleted] to effectively counter repeated, high density Backfire attacks over a sustained period. We are working closely with the Air Force, the Joint Staff and the Office of the Secretary of Defense to optimize the contributions that can be made [deleted] in some regions.

During the next five years, our Navy will see major improvements in anti-air warfare hardware, the sum of which will provide us a significant offensive as well as defensive capability to counter Backfire and follow-on Soviet, anti-ship aircraft and missiles. I am referring to the advent of the Aegis missile system, major improvements to the E-2C airborne early warning system, increased numbers of F-14 fighters, and improvements in Electronic Warfare equipments and techniques. In the meantime, [deleted]. Now in 1982, we rely heavily on [deleted] tactics to counter the Backfire threat with existing forces.

MATERIALS DEVELOPMENT PROGRAM

Mr. **EMERY**. Could you tell me, in detail, the nature and direction of the Navy's Materials Development Program, with a particular emphasis on the development of strong, lightweight composite materials for use in shipbuilding applications?

Admiral **HAYWARD**. The objective of the Navy's Materials Development Program is to reduce or eliminate the constraints due to materials limitations/deficiencies on the design, construction and operation of Navy ships and craft. This translates into goals of reducing cost and improving performance of materials used in Navy ships and craft. While these goals may, at times, compete with each other, appropriate trade-offs are made where necessary to achieve the optimum result. Examples of areas in which efforts are currently ongoing are corrosion control, coatings, fabrication methods, structural and machinery material improvement, fire resistant materials and composite material development.

Efforts in the area of strong, lightweight composite materials for use in shipbuilding applications include the following:

A. The Naval Sea Systems Command is looking into replacement of the steel superstructure on SSBN's with lightweight Glass Reinforced Plastic (GRP). Now in the Preliminary Design Stage (Directly applicable to follow-on Trident Class submarines).

B. Initiated efforts toward developing a composite propeller. This will be inherently damped and be lighter weight than present metal propellers.

C. Composite materials are being used extensively in submarine sonar window applications. Development is continuing to improve impact and acoustic performance using improved composite materials.

D. Advance Underwater Search System (AUSS) is being developed utilizing graphite composites as the pressure hull. This will be a deep submergence, unmanned vehicle.

E. GRP composites are being investigated for use as the structural hull material and superstructure for advance Mine Sweeper/Hunter ships.

F. Funds are being sought to initiate development of advanced lightweight composites for full scale 1990's deep submergence hulls.

G. Composites are being developed for submarine high pressure air flasks for use in the Main Ballast Tank system.

H. Composites have been developed and are being used for lightweight surface ship ballistic armor and topside equipment such as masts, ladders, platforms, and safety rails.

I. Composites are being developed for use as lightweight non-structural joiner bulkheads on surface ships, and for lightweight piping.

Titanium Alloy Technology

Mr. EMERY. The Members of this Subcommittee are very familiar with the alarming advances in Soviet submarine technology in recent years, and I think that the titanium alloy ALFA submarine is a particularly ill omen for any U.S. naval resources that might have to encounter it in a conflict. Can you tell me if the U.S. Navy is pursuing titanium welding processes and the development of high-speed, deep-diving capabilities for future SSNs and, if so, what is the funding profile in this area?

Admiral HAYWARD. The Navy has a titanium research and development project which has achieved improvements in titanium welding processes under laboratory conditions. We have been investigating titanium welds [deleted] typical of present techniques. This technology is ready for evaluation in an industrial environment. However, full development of titanium technology and hull materials to the safety and reliability standards required of a U.S. submarine hull would cost up to $2 billion and take 10-20 years, therefore, this effort cannot be considered as a response to the ALFA threat.

In other areas the Navy has developed an improved steel alloy, HY-130, to the point of at sea evaluation. This steel will allow [deleted] operating depths. A Deep Components program is working on hull fittings necessary to support such a capability; but, there has been no decision that such an operating depth is tactically required in the present or projected environment.

Funding in these projects is as follows:

[Dollars in millions]

	1982	1983	1984
Titanium-100	$2.8	$0.4	$0.4
HY-130	1.0		
Deep components	5.7	1.9	2.4

Additional Trident I Backfits

Mr. EMERY. The Navy has said, informally, that it would not be cost-effective to backfit additional Poseidon submarines with the Trident I (C-4) missile. Could you address this issue in a more formal and detailed manner?

Admiral HAYWARD. The Navy has 12 Poseidon submarines backfitted with Trident I (C-4) missiles and 19 Poseidon submarines that carry Poseidon (C-3) missiles. A study to determine if additional Trident I (C-4) backfits were appropriate for coverage of the intended target base noted the following advantages:

Increased range [deleted] vs. 2250 nm) of C-4 missiles over C-3 provides a larger patrol area.

Increased triad effectiveness prior to deployment of Trident II (D-5) missile.

C-4 missile has greater accuracy and reliability than C-3 missile.

Increased C-4 missile range allows basing in CONUS.

C-4 missile twice as effective [deleted].

No SALT considerations (one-for-one replacement of launchers).

Disadvantages of additional backfits are:

Conversion costs of about $250 million per SSBN.

Explosive Safety Quantity Distance (ESQD) of C-4 missile dictates Kings Bay as only suitable and affordable East Coast base.

CONUS base (Kings Bay or alternate) would require significant construction costs.

Effective Poseidon (C-3) missile would be retired early.

Additional C-4 range not required for Holy Loch Squadron.

Costly to start up some long-lead production lines already shut down.

Weighing the advantages against the disadvantages, Navy determined that additional backfits would provide only a marginal increase in effectiveness and would not justify the 4 to 5 billion dollar cost. Other factors that militate against additional backfits are:

Lack of a suitable East Coast base for additional C-4 missile support.

Deployment of additional large throw-weight, more accurate Trident I (C-4) missiles not required prior to Trident II (D-5) IOC.

[Deleted.]

Poseidon (C-3) missiles are still effective against soft military installations which are in our target base.

RACER

Mr. EMERY. What is the status of the DDG-51 program, and when can we expect to see the Racer system incorporated into this vessel program?

Admiral HAYWARD. The DDG-51 is currently in preliminary design. Based on the current schedule contract design will commence in the second quarter of fiscal year 1983. The procurement plan calls for the lead ship in fiscal year 1985 with delivery in fiscal year 1989. Follow ship construction will commence in fiscal year 1987.

The Rankin Energy Recovery Cycle (RACER) is currently under development. The current program schedule calls for RACER to be available for the fiscal year 1987 follow ship. We have adopted a positive approach toward getting RACER into the DDG-51 class. In fact, we are currently evaluating the possibility of installing RACER in the fiscal year 1985 lead ship.

Mr. BENNETT. We are going to come back at 1:30 this afternoon. That really saves us some time.

General BARROW. I am not required by Mr. Dougherty to make comment on his last statement?

Mr. DOUGHERTY. That is correct.

General BARROW. I do feel obliged to say something about the people in Desert One. When you talk about pilots in various services, and so forth; that was not a weakness, be assured. Those young men were selected, trained together, worked very effectively together.

Indeed, if you have access to the detailed critique of that operation, one of the things that comes out loud and clear is that the airmanship of the helicopter pilots was of the highest order, the very highest order.

Mr. DOUGHERTY. I am not in any way making any kind of detrimental comment about the capabilities of the pilots, General. I certainly think the men were the best. My problem is the way they designed the ways you put the crews together and not the individuals.

Mr. BENNETT. Mr. Mollohan.

Mr. MOLLOHAN. Mr. Secretary, I just want to associate myself with the remarks of Mr. Dougherty with reference to the guided projectile program and Seafire system.

I have checked since our discussion earlier with the chairman of the full committee and the staff, and we have not received any requests for a reprograming of the $17 million which you transferred in December, which the Navy transferred in December, in the Seafire and the guided projectile program.

That, of course, is a unilateral action on your part. Neither has any other committee up here on the Hill, so far as I can determine, received any reprograming requests.

I assume that you have taken action which formally transferred this money to other programs, and it is in the process of being obligated or expended, or possibly both. Is that correct?

Secretary **LEHMAN**. No, Congressman. There will be no obligating of any moneys that were appropriated for any other purpose until there is a normal reprograming action. If you have not received it, it is somewhere within OMB or OSD, or we have requested reprograming in the normal procedure.

We will, of course, not do anything that is not approved by Congress. There is just the problem. Often the decision was made in December, of getting it through the normal channels of OMB to get it up to the Hill for action. No action will be taken that would prejudice the case one way or another.

I do not wish to go to jail. I am aware of the budget and accounting acts. We, be assured, follow all procedures.

Mr. **MOLLOHAN**. Let me congratulate you on the negotiating process which you are using. I certainly commend you very highly for it—regardless of the merits of the programs themselves. I am personally very much committed to the guided projectile program, the Seafire. We have had testimony and letters from the Marine Corps as to the high level of importance and the highest priority which this program has within their concept.

I think the commandant wrote to the chairman, so he informed me not too long ago, advising him the Seafire and guided projectile was a very high-level program with them. In fact, occupied one of the highest priorites with them.

I am wondering how the Navy is looking at this, Admiral. What level of priority do you put upon the Seafire and the guided projectile program?

Admiral **HAYWARD**. I associate myself completely with what the Secretary is saying. This is a tough business issue and ought to be dealt with that way. There is obviously a desirability to have the capability.

Who wouldn't want to have an optical system that can very accurately put a round against a target? The optical system itself is not dramatically impressive at this point in time. Its range is quite limited. So you are now talking about ships getting very close to the beach in order to use a 5-inch shell—if you are going to use the Seafire system associated with it.

You might put a landing party ashore. You might have been able to insert some marines in there with the designators, so you could designate the target from some other source, other than Seafire, and thereby capitalize on the range capability built into the 5-inch round.

We need to keep the heat on, and we shouldn't waste a penny of money on a system that is only going to give us marginal investment returns. That is not to imply in any way failure to support the need for firepower for the Marine Corps. But there are other alternatives to that, to give them that firepower, including getting their own artillery ashore. Their weapons do have guided projectiles—the Marine program has that in it. We are really talking about how can the Navy augment that capability with a 5-inch shell.

Mr. **Mollohan**. Well, I can understand your caution with reference to the dollars and cents involved here. I am most sympathetic to that, and appreciate the efforts of the Secretary, and yourself, in accomplishing the most economic buy that can be made.

But I cannot help but think of the staggering increases in costs in other weapons systems that we have had that are under the jurisdiction of the Navy. I remember just a very few years ago I was a very ardent advocate, as I am today, of the *Vinson* class carrier.

We were talking about $2 billion. We are talking about $3 billion today. I am reminded of the $600 million overrun we had in Trident. These have been very troublesome as far as budgeting is concerned and forecasting budget costs.

I am very sympathetic to every effort to contain ourselves in this defense budget and put ourselves in a position to be responsive to the demand of the general public and a considerable segment of the Congress for reductions in the defense budget as well—all of these.

But at the same time, I think if we are going to build a Navy, we have all got to get out there and stand flat-footed on the deck and be fighting for it as this committee has tried to do in the last many years.

These 5-year plans were really a mockery. They never got beyond the second year. In the early years we had a very low level in construction and the high level was in the 4th and 5th year. We just never got to it. We came in for another 5-year plan.

As a result, we have had this horrendous drop in number of ships which you referred to earlier in your comments this morning.

I just think all of us have to join together and despite the individual opposition on the part of Members of Congress or the general public at the moment, we need to go forward with what we believe is constructively necessary to meet our responsibilities and our mission.

I am not persuaded in the slightest when I talk about advocating and supporting as I do a $6 billion authorization for two *Nimitz* carriers—the fact that, as Mr. Trible set out some time ago—I was going to get the staggering sum of $185,000 in parts for this $6 billion project, that $185,000 doesn't sound choice to me at all.

I am interested in the Navy. I am very much interested in it. I have spent 14 years on this committee. I think this committee has been one of the stalwarts in trying to defend the Navy at every level, and the Marine Corps as well.

I am most appreciative of everything that has been done, but I think it is wrong indeed for us to be scared off of this project because we have had what you refer to as 50-percent reduction, or increase, really, only a 30-percent increase, and I say only——

Secretary **Lehman**. Except that the contractor won't sign up even to that. I want to clarify where our position is. We have the contract on the table, any time they want to pick it up. If they want to sign a contract for the total buy, multiyear procured, funded at a flat price of $44,000 per round, we are ready to pick it up. But they are not. It is they who are the reluctant ones. And that gives us even further fear that it is going to cost not the

$60,000 per round, but even more than that; otherwise, they would accept the risk and sign a fixed-price contract.

Mr. **Mollohan**. Have you pumped into your $44,000 base there an amount which would be responsive to the general inflation which we have all——

Secretary **Lehman**. The inflation rate since last July has probably been around 5 or 6 percent, if the Bureau of Labor Statistics is to be believed. So I would even be willing to take 5 or 6 percent over the $44,000. The fact that they won't accept the risk tells me something.

It tells me they don't have the confidence that they have any estimate of what it is going to cost.

Mr. **Mollohan**. Mr. Chairman, I asked in my original question some comments of the Secretary and the Admiral as well, with reference to MK-92. Would you comment on that?

Mr. **Bennett**. Your time has expired. I have time. So I will yield my 5 minutes to you.

Secretary **Lehman**. The MK-92 fire control system is a problem well known to this committee. It needs improvement. The committee has taken a firm position on that, and we agree with it. Improvement is mandatory. What, perhaps, we don't agree on is that a specific proposal by one contractor is the best way to carry that out.

We are carrying forward a major upgrade program with the coherent receiver transmitter to fix the problems inherent in that radar; the degradations we now know were known when the system was bought, as a low-mix system.

We do not support the proposal that one contractor has put forward and that some members of the committee are advocating specifically as the way to go. But we do accept the direction of the committee that we must upgrade that system, and we are taking steps to do so.

Mr. **Mollohan**. Do you expect to take a positive action in regard to this in the very near future or is this something just on the table?

Secretary **Lehman**. No, this is something that is underway right now, and it is under negotiation—a development contract—to carry out this upgrade. The negotiations are going on right now.

Mr. **Mollohan**. I am not in any sense advocating any way you go. I am only advocating that we go.

Secretary **Lehman**. Well, we accept that. We appreciate the push that you have given us on it. We are marching forward to carry it out.

Mr. **Mollohan**. Thank you, Mr. Chairman.

Mr. **Bennett**. Mr. Spence.

Mr. **Spence**. I yield my time to Mr. Dougherty.

Mr. **Dougherty**. Thank you, Mr. Spence.

General Barrow, I don't want to have the hearing terminated if you have more comments to make on my little sermon I made last time around. I want you to have the time if you have anything else.

General **Barrow**. No, sir, I have nothing further.

Mr. **Dougherty**. Would you submit to the committee a list of the priorities the Marine Corps has this coming year as it relates to the general area of ship construction, naval gunfire, whatever else you think is important?

General **Barrow**. Mr. Dougherty, that is very difficult to do. It is all an integrated force enhancement kind of thing. You are asking me to choose between one of my five children or something.

Mr. **Dougherty**. Mr. Trible asked Admiral Hayward the same question, and he had the same problem.

General **Barrow**. You would like me to give you, for the record——

Mr. **Dougherty**. What are your major priorities? It is obvious there will be an attempt made to cut the defense budget. This was brought up at the Secretary of Defense level at a breakfast meeting some weeks ago—members of the Armed Services Committee indicated they thought the defense budget would be cut this year.

Rather than have somebody go off the deep end on the floor and cut a program which you consider absolutely essential——

General **Barrow**. I would rather take that chance. I think if we put in a list that says this is the order of priorities, you offer up an attraction that some people cannot refuse to say let's start from the bottom and work up.

While in fact there may be some programs more important than others, they are all of importance. I think there is risk in suggesting there is prioritization, that some are less important—that would be misinterpreted.

Mr. **Dougherty**. I would say the members of this committee would agree with you. The problem we have is when we face the battle on the floor over attempts to cut the defense budget.

Secretary **Lehman**. Congressman, I would like to repeat and urge this committee to force a prior question if that becomes the issue on the floor. And the prior question is that Congress must first decide which commitments they will abrogate before we can give a priority to what we can do without. That has to be looked at first, because we are overcommitted.

Mr. **Dougherty**. Let me just give you an example, Mr. Secretary. I sit on the Military Installations Subcommittee in addition to the Seapower Subcommittee. I would think it very devastating to see this defense budget cut 2 percent, 3 percent across the board, which would devastate many of our programs.

If cuts are going to come—Mr. Trible and I both indicated we are going to cut $1 billion out of the MilCon budget as a way to try to preclude cuts being made in the area of operating forces.

We are perfectly willing to take it either way. Let me say we basically agree with what you are saying. We would like the optimum defense budget we can get. This one is not adequate. All I am saying is we are going to get cut, I would rather know there is a way we can do it with some selectivity than to have to face an amendment on the floor which will say 2 or 3 percent across the board and lose some very vital systems.

One last question, which is most serious, Admiral. Where is *Whidbey Island*—since I had a little bit to do with the LSD-41.

Secretary **Lehman**. The *Whidbey Island* is the LSD-41. As you know, we name LSD ships after historic pioneer locations, and I am sure Senator Jackson would be glad to give you a longer peroration about the importance of Whidbey Island as one of the leading outposts of settlement north of Seattle in the Puget Sound area.

Mr. **Dougherty**. Maybe I would like to have seen it named U.S.S *Fort Mifflin* or something.

Secretary **Lehman**. Well, LSD-42 is the next candidate to look at for that.

Mr. **Dougherty**. I will be sending you over a historical name from the Philadelphia area.

Mr. **Bennett**. The staff might want to ask a question.

Mr. **Schafer**. Yes, Mr. Chairman.

On the fiscal year 1982 supplemental, in the shipbuilding area, there are four items. Mr. Secretary, could you address specifically on those four items what problems would occur if the funding were not approved in fiscal year 1982?

Secretary **Lehman**. I have already addressed the one for the second sourcing of the Aegis ship. The next would be the cost increase of the TAO, the fleet oiler. This is a result of the best NAVSEA estimate for what the ship will actually cost. Again, it is just really responsive to the full funding requirements of the Congress.

The cost growth line in the Trident program reflects the problems we had at Electric Boat, the faulty welds, the nonconforming steel, and the resultant costs under the contract. I want to emphasize, for the record, that we refused to pay one penny of contractor costs for actually fixing those welds and those claims all have been dropped, some 100 million dollars' worth of them, by Electric Boat. But cost growth—this is the result of time delays, schedule delays, and indirect costs that were in the program. And that, again, is money that is now coming due.

The mine countermeasures ship, again, is an attempt to fully price the development of the electronics for the mine countermeasures ships. If we don't get that money it means we will have a less sound business approach toward conducting that development.

Mr. **Schafer**. It was our understanding that the delay of the approval of that funding from fiscal year 1982 until fiscal year 1983 would have no industrial or contractual impact, with the exception of the second sourcing.

Secretary **Lehman**. It would at the very least involve some reprograming within the Trident accounts. The Aegis one we have talked about. The other two, I would have to provide you a definitive answer for the record.

Mr. **Schafer**. Fine.

[The following information was received for the record:]

Delay in Supplemental Funding

As for the T-AO cost increase, in December 1979, the Navy contracted with two shipbuilders who had recent tanker/oiler experience (Avondale and Natinal Steel) and had them provide detailed costing information on a "national" ship similar in characteristics to the T-AO. The results of this effort (completed after the fiscal year 1982 submit) was a significant change to the Cost-Estimating-Relationships (CERs) used for the T-AO. $56.4 million of the increase is directly attributed to changes in plans, basic construction, associated change orders, and escalation allowances created by application of the new CER's. The balance of the increase is for miscellaneous adjustments to GFE, etc.

Deferral of the requested T-AO cost increase from fiscal year 1982 to fiscal year 1983 would have no industrial or contractual impact on the program, since it is the

Navy's intent to award both the fiscal year 1982 and fiscal year 1983 ships together in the first quarter of fiscal year 1983.

The fiscal year 1982 supplemental funds requested for the MCM program are required to fully fund the fiscal year 1982 requirements. Without the funds or relief from program full funding requirements in the fiscal year, the lead ship shipbuilding contract will not be awarded in fiscal year 1982.

The impact of not awarding the MCM contract would be:

1. Delay in Initial Operational Capability (IOC) of the lead ship by at least 6 months.
2. Probable delay in award and IOC of follow ships programed in fiscal year 1983, 1984 and 1985.
3. Probable cost increases on all programed ships due to inflation.

Mr. SCHAFER. The second question, on the funding profile for the two carriers that are requested, the Navy has pursued a multiyear procurement strategy, for example, with the TAO's. What is there about the acquisition of the two carriers that would preclude a multiyear funding strategy?

Secretary LEHMAN. Well, in effect, this proposal is a multiyear procurement. The major benefits of multiyear procuring are stabilizing long-lead positions for subsystems and being able to commit in advance at good prices for these subsystems. Buying two carriers the way we have proposed, realizes all the benefits normally associated with multiyear procurement. It is a multiyear procurement in all business effects.

Mr. SCHAFER. Would it be possible to get those multiyear benefits without full funding in fiscal year 1983?

Secretary LEHMAN. It would be possible to get most of those benefits if there were full funding of one and major long-lead funding for the other. However, we would need the go ahead for allowed fabrication and advanced procurement of items that would include some fabrication. This does not technically fall under normal long-lead policy without some modification.

However, the outlay profile is the same, whether you full-fund it or you do it not fully funded. But still it is a multiyear procurement-oriented approach.

Since there is no budgetary benefit to it, only the symbolic benefit of less TOA, the price you pay for not having that full TOA up there in terms of drawing a better subcontractor base outweighs any benefit of the symbolic cuts. So I would recommend strongly against it.

Mr. SCHAFER. I understand. I would also point out that the bill this committee will take to the floor will not carry the outlay number. It will carry the authorization number, which is a much larger number.

Thank you, Mr. Chairman.

Mr. BENNETT. Mr. Kriser.

Mr. KRISER. One brief question.

Admiral Hayward, what would be the practical effect if you cut the number of F-14's on the large deck carrier per squadron from 12 to 10?

Admiral HAYWARD. There are two squadrons on every carrier, so you are cutting the wing by four fighter aircraft. And you are making it that much more difficult to maintain your airborne combat air patrol stations to cover 360 degrees around the force. Therefore, you are reducing the capability of the carrier to handle its air defense problem in direct relationship to the cutback in number of airplanes.

Twenty-four fighters is not the right number. It should be well above that. It is constrained to that. That is why you mix two and three carriers together in order to build up that force for whatever the task is.

Twenty-four happens to be the number that we have arrived at with a great deal of experience for the deck size we have and, the variety of airplanes that we have aboard.

If you take two away from each squadron, you are simply making it that much harder to protect the force.

Mr. **Kriser**. How would you react if that money that would have been spent for the additional F-14's were then in effect used to buy more F/A-18's.

Admiral **Hayward**. I would not like it at all.

Mr. **Kriser**. Thank you, Mr. Chairman.

Mr. **Dougherty**. Mr. Chairman—Mr. Secretary, just for my own interest, would you comment on how the SLEP program on the U.S.S. *Saratoga* is going and the plans for the U.S.S. *Forrestal*?

Secretary **Lehman**. The *Saratoga* SLEP is a substantial success story in the way the job has been accomplished. I, of course, was not around when the decision was made as to where it went. I cannot comment on that. I can comment on how the job has been done since it has been there, and the news is very good. It is on time and it is within 2 percent of the original cost estimates. It is essentially on cost, and that despite the fact that a major setback occurred when they discovered the serious unforeseen problems in the turbines. However, that problem has been accommodated within schedule and within cost.

We are therefore, quite pleased with the performance of the Philadelphia Naval Shipyard in its near completion of the *Saratoga*. We are tentatively planning to bring *Forrestal* into Philadelphia sometime around next January to begin the second SLEP. We will keep the stability of the work force at Philadelphia Naval Shipyard firm and maintain the cadres of trained and experienced SLEP'ers that we now have up there. It is a success story that I think ought to be publicized.

Mr. **Dougherty**. Thank you, Mr. Secretary. I saw Admiral Hayward nodding. That does my heart well.

Admiral **Hayward**. I am very high on the shipyard. They have been coming up every year for the last several, and they are performing right at the top now. For that matter, I would commend indeed the leaders of the city for their cooperation in the way in which the Navy and the city of Philadelphia are working together.

Mr. **Dougherty**. Thank you.

Mr. **Bennett**. Thank you very much.

Thank you all for coming. We will be back at 1:30.

[Whereupon, at 12:15 p.m., the subcommittee recessed, to reconvene at 1:30 p.m., the same day.]

AFTERNOON SESSION

OTHER PROCUREMENT

Mr. **BENNETT**. The subcommittee will come to order.

This afternoon will conclude our hearings on the fiscal year 1983 defense authorization request.

We are pleased to welcome Rear Adm. Richard A. Miller, Director of the Fiscal Management Division, Office of the Chief of Naval Operations; and Rear Adm. S. J. Hostettler, Director, Surface Combatant Systems, Office of the Chief of Naval Operations.

Rear Admiral Miller will present the ship-related portions of the budget request for the account known as Other Procurement.

As a result of legislation enacted last year, authorization of appropriations for Other Procurement is required annually, as is done for ships and weapons.

Rear Admiral Hostettler will present the budget request for torpedoes and guns.

Mr. Spence, do you wish to make a statement?

Mr. **SPENCE**. No, Mr. Chairman.

Mr. **BENNETT**. We will proceed then with Admiral Miller.

BIOGRAPHICAL SKETCH OF REAR ADM. RICHARD A. MILLER, USN

A native of West Orange, New Jersey, Rear Admiral Miller enlisted in the Navy in 1945. He received a fleet appointment to the United States Naval Academy, and graduated with the class of 1950. His first tour of duty after commissioning was as Main Propulsion Assistant in U.S.S. *Goodrich* (DDR-831).

Following flight training and designation as a Naval Aviator in November 1952, he served with Patrol Squadron Forty Five, operating seaplanes from Naval Station, Coco Solo in the Panama Canal Zone. In 1955, he qualified as a helicopter pilot and served with Helicopter Anti-Submarine Squadron One. His next assignment was as Aircraft Maintenance Officer and Search and Rescue pilot at the Naval Air Station, Chincoteague, Virginia.

Rear Admiral Miller then served two years as an Exchange Officer with the Royal Navy, serving in HMS *Ark Royal* (R-09) and as Executive Officer of 820 Squadron. On return to the United States in 1961, he was Assistant Force ASW Officer on the staff of COMCRUDESLANT.

He served as Executive Officer and Commanding Officer of Helicopter Anti-Submarine Squadron Three aboard the U.S.S. *Randolph* (CVS-15). Following his squadron command tour, he was assigned to the Anti-Submarine Warfare Systems Project Office in Washington, D.C. In 1969 and 1970 he was Commander, Carrier Anti-Submarine Air Group Fifty-Three in U.S.S. *Kearsarge* (CVS-33) assigned to the Seventh Fleet.

He commanded the U.S.S. *Spiegel Grove* (LSD-32) and in May 1974 he was assigned as Commander, Amphibious Squadron Four and from May 1976 to June 1978 served in the office of the Chief of Naval Operations, Systems Analysis Division, Washington, D.C., as Deputy Director. He was elevated to Flag Rank in June 1978 and became Commander Anti-Submarine Warfare Wing, U.S. Pacific Fleet on 8 August 1978.

In December 1980 he was appointed by the President as the Director of Budget and Reports, Office of the Navy Comptroller, and Director, Fiscal Management Division, Office of the Chief of Naval Operations.

Among Rear Admiral Miller's awards are the Legion of Merit, the Navy Commendation Medal, and the Vietnamese Navy Distinguished Service Order. He is a graduate of the United States Naval Postgraduate School, Monterey, California, and holds a Master of Science Degree in Operations Research. He is also a graduate of the Army War College, Carlisle Barracks, Pennsylvania, and in 1971 he was assigned to Harvard University where he was a Fellow at the Center for International Affairs.

Rear Admiral Miller is married to the former Claire Meylich of West Orange, New Jersey. They have three sons.

STATEMENT OF REAR ADM. RICHARD A. MILLER, USN, DIRECTOR, FISCAL MANAGEMENT DIVISION, OFFICE OF THE CHIEF OF NAVAL OPERATIONS, DEPARTMENT OF THE NAVY

Admiral **Miller**. Thank you, Mr. Chairman.

It is a pleasure to be before the committee this afternoon to present a summary of the Other Procurement, Navy appropriation. I have provided my detailed statement for the record. I would like to summarize it, if I may, just briefly.

The fiscal year 1983 Other Procurement, Navy appropriation request is $3.9 billion. This request is $293 million greater than the revised fiscal year 1982 program. From a real program value point of view, this equates to an increase of $106 million in fiscal 1983.

The funds requested in this appropriation finance equipment vital to the efficient operation of our ships and the shore establishment. It also procures ammunition and equipment to meet training, readiness, and combat requirements; it also provides the necessary training equipment in support of our operational equipment.

I would like to emphasize three budget activities within this appropriation, and I have provided a set of charts that summarize these three budget activities.

TABLE 1.—OTHER PROCUREMENT, NAVY BREAKDOWN WITHIN BUDGET ACTIVITY 1

[Dollars in millions]

	Fiscal years		
	1982	1983	1984
Ship support equipment	$692.1	$568.9	$801.1
Hull, mechanical and electrical (H,M&E) Eq	144.3	122.6	126.2
Ship propulsion equipment	46.5	32.7	50.7
Pumps	11.8	12.9	4.1
Navigation equipment	29.8	33.0	33.6
Other H,M&E	56.2	44.0	37.8
Reactor plant equipment	367.6	257.1	477.2
Reactor power units	220.3	89.2	281.3
Reactor components	147.3	167.9	195.9
Other shipboard equipment	180.2	189.2	197.7
Submarine silencing equipment	12.6	12.0	10.4
Trident support equipment	13.5	11.9	22.2
Sealift support equipment	5.9	22.0	24.4
Surface IMA	15.8	10.1	11.7
Other	132.4	133.2	129.0

The first one is the ship support equipment. This request is $569 million for fiscal year 1983. That is the center column. The funding requested in this activity will procure equipments to modernize ship hull, mechanical and electrical capabilities of our current Navy ships. It will also procure nuclear power units and components for nuclear-powered ships and will procure other shipboard equipment required to maintain and modernize units of the fleet.

TABLE 2.—OTHER PROCUREMENT, NAVY BREAKDOWN WITHIN BUDGET ACTIVITY 2 [1]

[Dollars in millions]

	Fiscal years		
	1982	1983	1984
Communications and electronics equipment	$1,015.1	$1,309.5	$1,559.7
Ship radars	79.9	171.4	126.3
Ship sonars	202.2	207.4	278.8
ASW electronics equipment	165.9	270.9	418.0
Reconnaissance and electronic warfare	246.6	268.0	208.6
Other shipboard electronics	155.2	176.4	267.2
Shipboard communications equipment	165.3	215.4	260.8

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[1] Does not include Shore Communications, Shore Electronics, and Aviation Communications and Electronics.

On the second page, budget activity II, is the budget activity for communications and electronics equipment which is the largest budget activity in the other procurement, Navy appropriation. The fiscal year 1983 request for seapower-related communications and electronics is $1.3 billion, an increase of $294 million over the fiscal year 1982 budget.

I might point out at this time that in my detailed statement I show the entire Other Procurement, Navy appropriation and break it out, those items that are of interest to your subcommittee and those items that are of interest to the other subcommittees. Included are funds for the initiation of the production of the new threat upgrade combat system which is an antiaircraft warfare program to counter the very latest missile threats.

The new threat upgrade combat system consists of three principal components: The first is the new SM-2 extended-range missile, which is funded in the WPN, Weapons Procurement, Navy appropriation. The second piece is the engagement system modification. Funding for this is in budget activity IV of OPN which we will talk about in just a moment. In this budget activity the third component is the significant improvement to the SPS-48 and SPS-49 search radars. Installation of the new threat upgrade combat system is scheduled for the Terrier ships of the Navy. These ships include the CG-16 and CG-26 classes, CGN-9 and CGN-35, a total of 21 Terrier ships; 10 Tartar ships will also receive the upgrade.

There is $215 million in this request for shipboard communication equipment which includes funding for general shipboard communications, some for unique submarine communications, some for satellite terminals, and an amount of $94 million for cryptographic devices.

TABLE 3.—OTHER PROCUREMENT, NAVY BREAKDOWN WITHIN BUDGET ACTIVITY 4

[In millions]

	Fiscal years		
	1982	1983	1984
Ordance support equipment	$830.1	$785.2	$985.6
Ship gun ammunition	111.7	90.1	154.2
Ship gun system equipment	72.3	37.4	34.5
Ship missile system equipment	291.0	350.0	396.0

TABLE 3.—OTHER PROCUREMENT, NAVY BREAKDOWN WITHIN BUDGET ACTIVITY 4—Continued

[In millions]

	Fiscal years		
	1982	1983	1984
FBM support equipment	68.6	55.3	55.3
ASW support equipment	87.3	69.9	105.4
Other ordnance support equipment	140.1	125.9	162.7
Spares and repair parts	59.1	56.6	77.5

The last sheet you have is budget activity IV which is for ordnance support equipment. The request is for $785 million. This funding in this budget activity will procure ship gun ammunition, modernize ship gun, missile and antisubmarine warfare support equipments, and will procure FBM and other ordnance support equipment.

Mr. **Hartnett**. Admiral, this ordnance support equipment that you are asking for, ship gun ammunition, you don't have any guns on ships anymore?

Admiral **Miller**. Yes, sir.

Mr. **Hartnett**. You don't have 100 million dollars' worth of shells to shoot. Surely you don't shoot 90 million dollars' worth of bullets or shells, whatever you shoot this year? What about the ones you had left over last year, did you use $90 million last year? Do you use it for practice? Is this ordnance you have to have stored in case you need it? Surely you did not shoot 100 million dollars' worth of shells last year in the ships' guns?

Admiral **Miller**. All the things you said are true; that is, it is both for war reserves and it is for practice ammunition. We have a certain inventory we require for annual use for practice and training. We have another inventory objective which is based on our requirements for ammunition in the wartime scenario. We do not have the full inventory requirement. While we are buying some for practice, we are also buying quite a bit to put into inventory.

Mr. **Hartnett**. Last year you got $111 million?

Admiral **Miller**. That is correct.

Mr. **Hartnett**. That is like 200 million dollars' worth of shells for your guns. I realize you have to keep a large amount in case you need it, but next year you are going to ask for $154 million; that is 300 million dollars' worth of ammunition. I would not think that we shot that much in the last war altogether.

I wonder if you store this stuff or maybe if you have some left over? I always resent it when somebody says or talks about $90 million being peanuts, we got in trouble talking about $90 million as peanuts, "$90 million is a bag of peanuts."

What do you do with all the shells you have left over?

Mr. **Bennett**. I guess he is asking you, what is your ultimate goal for shells?

Mr. **Hartnett**. Are you not stockpiling massive amounts somewhere?

Mr. **Bennett**. Is that the limit or are you always going to ask for $100 million dollars' worth of shells?

Admiral MILLER. We have inventory requirements based on wartime scenarios that we have developed.

Mr. BENNETT. He wants to know how much it is.

Mr. HARTNETT. The point is that you had that last year, too.

Let us say, of the $111 million, this $70 million was part of your wartime reserve so you didn't shoot it. So you carried the $70 million over this year. You should not get but $50 million. You should not need $90 million because you have the $70 million left over?

Mr. BENNETT. That is a good question. You have said that you shoot some of this. I think in view of his question you ought to say two things: One, what is your objective of how many shells you have to have in this area; and, two, how far short are you falling and when will you be caught up?

I guess there is another question: How much do you shoot a year? Which, I am sure, is not anywhere near $100 million.

Admiral MILLER. That is correct. I have here the detailed requirements for our inventory versus what we actually have on hand.

Mr. HARTNETT. That is what I want to know.

Admiral MILLER. I was going to suggest, Mr. Chairman, if we are going to go into closed session, at that time I will give it.

Mr. HARTNETT. I don't want to cause all that trouble, Mr. Chairman. I just want to ask the question.

Mr. BENNETT. We are going to have to go into executive session anyway. We won't exclude but two or three people and they probably have other things to do.

Without objection, we will go into closed session for the rest of the afternoon.

[Whereupon, at 1:45 p.m., the subcommittee proceeded in executive session.]

Mr. BENNETT. Now we can proceed. While you are telling us how much ammunition you are using up, you might tell us how often you hit the target.

Admiral MILLER. We have some very good weapon systems now. I am reminded to point out in this gun ammunition appropriation here that we are also buying for new systems. We have the new Phalanx close-in system, a Gatling gun that is controlled by radar which Admiral Hostettler will talk to, no doubt. We are buying for that plus the new Mark-75 gun which we are still procuring new ammunition for to get that particular one up to its inventory.

Just as an example, 5-inch/54 ammunition, that is a gun which has been around for quite some time on many of our cruiser-and destroyer-type ships.

Mr. HARTNETT. You don't have them on your ships; all you have is missiles; you don't have big guns on your ships anymore, do you?

Admiral MILLER. We have 5-inch guns and we have 16-inch guns.

Mr. HARTNETT. How many 5-inch guns do you have?

Admiral HOSTETTLER. We have two on each 963. Very few ships in the Navy will have aft guns. We don't have the numbers of guns, but we have greater firepower when compared to World War II. A 5-inch/54 is equivalent to two 5-inch/30 barrels. One of the problems is that in training we are firing as many rounds today as we did to achieve the some effect as in years past with a larger number of older mounts. The price of the round has gone up. We have 200 ships. Therefore for training it is a fairly sizable expenditure a year.

As the admiral points out, in addition we would like to say that we have our magazines full. We don't. We have new construction, of course, coming in that we have to fill up as we go.

Second, in the case of our newer mounts we are just now getting up to speed. It will take about a 3-year period where we really get up to the point where we can completely load all the gun magazines with our new ammunition.

So, as you build ships, as you train, you have a constant use of the rounds.

Second, we have a requirement for some stockpiling, particularly in overseas areas. In general, for the newer guns we don't have the rounds to stockpile. Consequently, if somebody looks at the IO we have a problem, so we have a sizable requirement.

Mr. BENNETT. I don't believe Mr. Hartnett is entirely satisfied yet.

Admiral MILLER. I would like to give him some numbers.

Mr. BENNETT. That is what he is asking.

Admiral MILLER. In the number side on this 5-inch/54—let us use it as an example—it is a rather typical example—we will have 54 ships that have this gun on them at the end of fiscal year 1983, some will have two and some will have one. We have an inventory objective for full charges for this particular gun of [deleted] of these charges. We have serviceable rounds right now in the magazine of [deleted]. We have [deleted] in repair. At the end of this buy, plus everything we shoot this coming year——

Mr. BENNETT. How do you repair a bullet?

Admiral MILLER. When they get old they reach a shelf life, or if we see that they have some particular damage to them——

Mr. BENNETT. I understand how they get in bad shape; I don't understand how you repair them.

Admiral MILLER. We send them back to the ordnance repair facility and if they are repairable they can be dismantled.

Mr. BENNETT. You do repair them?

Admiral MILLER. Yes, sir.

Mr. BENNETT. Mr. Hartnett was really hoping you would come out and say we have 1,222 5-inch guns and so many other guns and that each one of them should have so many thousand rounds, and we only have half of them. That is what you said with regard to the 5-inch gun. I guess he wanted an overall picture. I think Mr. Hartnett probably has in mind that sometimes we find that a thing get started and people continue to buy long after the need for it is gone; the industrial complex keeps it going. He was trying to find out whether that would be true here, hoping he could save some money.

Mr. HARTNETT. The point is, hypothetically every year you have $100 million for shells and every year in practice you fire $50 million in shells. It stands to reason you were carrying over $50 million of shells every year. At the 10th year you would have 500 million dollars' worth of stockpiled shells. Then there would be a point when you would not need any money for shells because you would have 500 million dollars' worth, and if you fire half of those you would still have 250 million dollars' worth to carry over. At some point your arsenal would be full, even though you fire half of what you have.

Mr. **Bennett**. When will you be full? That is what he is asking.

Admiral **Miller**. In this example that I gave you—we [deleted] have our complete inventory objective [deleted] at the level we are buying right now. For a decade or more we have not been buying sufficient ammunition, so we have a dangerously low supply; that is why we have to continue to buy, to bring our inventory objectives up.

Mr. **Hartnett**. Thank you, Admiral.

Admiral **Miller**. An excellent point. I welcome the opportunity to get that across.

Mr. **Bennett**. You know you are going to get that kind of question as long as Mr. Hartnett is on this committee.

Admiral **Miller**. If there is anything more you would like provided for the record, we would be glad to give you a summary.

Mr. **Bennett**. My staff advises me that these rounds, like Congressman, get old and are eventually jettisoned.

Admiral **Miller**. I have just about completed my summary.

I would like to say, on page 3, that the $350 million item there, the third one down, is requested for ship missile system equipment, which is an increase of $59 million over 1982. These equipments will be utilized to modernize and increase the shipboard offensive and defensive missile system capabilities.

Also included in this line is a Tomahawk support equipment request for $176 million. This provides 9 surface weapon control systems and 18 submarine system modifications for the Tomahawk.

In addition, this funding provides for the backfit of the Tomahawk vertical-launch system in the DD-963-class ship and for two in the SSN-688-class submarine.

That completes my summary. I will be happy to answer any questions.

WRITTEN STATEMENT OF REAR ADM. RICHARD A. MILLER

Mr. Chairman and members of the Committee, I am Rear Admiral Richard A. Miller, Director of the Fiscal Management Division, Office of the Chief of Naval Operations. It is a pleasure to appear before you to present the fiscal year 1983 budget request for the Other Procurement, Navy (OPN) appropriation.

The Other Procurement, Navy appropriation is essentially the same in program content and structure as presented last year. The fiscal year 1983 OPN budget request is $3,970.2 million. This request is $293.6 million over the revised fiscal year 1982 program. From a real program value point of view, this equates to an increase of $106.1 million in fiscal year 1983 dollars. There are a myriad of equipment programs in this appropriation. Specifically, OPN finances the procurement of weapons and equipment other than aircraft, missiles, ships, and torpedoes. Equipments that are funded range from the latest electronic sensors and weapons systems to update our naval forces, to trucks, training equipments and spare parts; from simple office equipment to sophisticated electronics systems. The funds requested in this appropriation finance equipments vital to the efficient operation of our ships and shore establishment, procures the ammunition to meet training readiness and combat requirements, and provides necessary training equipment in support of operational equipment procurements.

TABLE 1.—OTHER PROCUREMENT, NAVY BUDGET ACTIVITIES

[Dollars in millions]

	Fiscal year		
	1982	1983	1984
Total request	$3,676.6	$3,970.2	$5,259.2
Ship support equipment	692.1	568.9	801.1
Communications and electronics equipment	1,174.1	1,488.0	1,761.6
Aviation support equipment	579.2	608.2	881.3
Ordance support equipment	830.1	785.2	985.6
Civil engineering support equipment	114.4	172.8	287.3
Supply support equipment	75.9	91.2	118.4
Personnel and command support equipment	210.8	255.9	423.9

This request of $3,970.2 million continues to emphasize modernization and improvement of fleet readiness and is summarized in seven Budget Activities (Table 1). As you know, the Other Procurement, Navy appropriation is structured on an equipment/commodity basis and the budget is officially submitted in an end item P-1 format summarized in these Budget Activities. The focus of today's presentation will be an Budget Activity 1, Ship Support Equipment; Budget Activity 2, Communications and Electronics Equipment (exclusive of Shore Communications Equipment, Shore Electronics Equipment, and Aviation Communications and Electronics Equipment); and, Budget Activity 4, Ordance Support Equipment. A total of $2,663.6 million has been requested for equipments included in these two and half budget activities, 67.1 percent of the total OPN appropriation request (Table 2).

TABLE 2.—OTHER PROCUREMENT, NAVY BREAKDOWN OF FISCAL YEAR 1983 BUDGET REQUEST BY COGNIZANT HASC SUBCOMMITTEE

[Dollars in millions]

Program by budget activities	Request [1] (100 percent)	Subcommittee [2] (67.1 percent)	Subcommittee [3] (32.9 percent)
Total request	3,970.2	2,663.6	1,306.6
Ships support equipment	568.9	568.9	0
Communications and electronics equipment	1,488.0	1,309.5	178.6
Aviation support equipment	608.2	0	698.2
Ordance support equipment	785.2	785.2	0
Civil engineering support equipment	172.8	0	172.8
Supply support equipment	91.2	0	91.2
Personnel and command support equipment	255.9	0	255.9

[1] Total fiscal year 1983 budget request.

[2] Subcommittee on Seapower and Strategic and Critical Materials.

[3] Subcommittee on Procurement and Military Nuclear Syatems.

The first Budget Activity is Ship Support Equipment at $568.9 million, a decrease of $123.2 million as compared with fiscal year 1982 (Table 3). The funding requested in this Budget Activity will procure equipments to modernize the Hull, Mechanical and Electrical (H,M&E) capabilities of our current Navy ships, procure nuclear power units components for nuclear powered ships, and will procure Other Shipboard Equipment required to maintain and modernize units in the fleet.

TABLE 3.—OTHER PROCUREMENT, NAVY BREAKDOWN WITHIN BUDGET ACTIVITY 1

[Dollars in millions]

	Fiscal year		
	1982	1983	1984
Ship support equipment	692.1	568.9	801.1
Hull, mechanical and electrical (H,M&E) Eq	144.3	122.6	126.2
Ship propulsion equipment	46.5	32.7	50.7
Pumps	11.8	12.9	4.1
Navigation equipment	29.8	33.0	33.6
Other H,M&E	56.2	44.0	37.8
Reactor plant equipment	367.6	257.1	477.2
Reactor power units	220.3	89.2	281.3
Reactor components	147.3	167.9	195.9
Other shipboard equipment	180.2	189.2	197.7
Submarine silencing equipment	12.6	12.0	10.4
TRIDENT support equipment	13.5	11.9	22.2
SEALIFT support equipment	5.9	22.0	24.4
Surface IMA	15.8	10.1	11.7
Other	132.4	133.2	129.0

Significant equipments procured in the H,M&E area are ship propulsion equipment, various pumps and navigation equipment. The fiscal year 1983 request for ship propulsion equipment is $32.7 million. Examples of these procurements include equipments designed to improve the reliability, maintainability, and durability of the LM 2500 Gas Turbine Engines introduced into the fleet through the DD-963 and FFG-7 Class ships. These funds will also procure various modifications, such as improved fuel oil strainers, to improve the reliability of existing steam propulsion plants. The request for $12.9 million in fiscal year 1983 for pumps satisfies the requirement to replace difficult to maintain, old/worn out, and inefficient pumps with new upgraded pumps. Additionally, this program supports a rotatable pool to continually support the submarine Extended Operating Cycle (EOC) program. $33.0 million is requested to procure navigation equipment such as the Electrically Suspended Gyro Navigator (ESGN), which will replace and modernize the current inertial navigation systems on SSN-637 and SSN-688 class submarines.

The fiscal year 1983 request for Reactor Plant Equipment is $257.1 million, a decrease of $110.5 million as compared with fiscal year 1982. The major item procured this category is nuclear reactor cores which are required for refueling of nuclear powered ships. The fiscal year 1983 procurement request for cores is $89.2 million; also included in this category is $167.9 million for spares and replacement reactor plant components and equipment required for the continued safe operation of the Navy's nuclear reactors. Replacement core procurement plans have been approved for several years on the basis of being the most economical, efficient ways of procuring placement fuel for nuclear powered ships. Further, procurement in accordance with these plans minimizes the risk of unavailability of cores of emergency replacement while maintaining a viable, two-vendor base of reactor cores.

The remaining funds requested in Budget Activity 1 ($189.2 million) will provide for procurement of various other shipboard equipments to support improvement/modernization programs or as part of a planned maintenance replacement program. For example, Submarine Silencing Equipment at $12.0 million procures hardware developed from a variety of technical efforts aimed at minimizing the detectability of our SSNs and SSBNs while improving their ability to detect other submarines. Trident Support Equipment funding of $11.9 million will provide for shore-based support and planned equipment replacement required for introduction of Trident submarines. The $22.0 million Sealift Support Equipment funding provides for the procurement of equipment, such as Sliding Padeyes and Sea Sheds, to enhance the capability of U.S. Navy merchant ships to resupply in-theatre forces. The Surface Intermediate Maintenance Activities request of $10.0 million will provide shop and other investment equipment to upgrade the capability and capacity of the Surface

Intermediate Maintenace Activities. Fiscal year 1983 procurement will support the outfitting of SIMA Charleston, SIMA Norfolk (Little Creek), SIMA Pearl Harbor, and SIMA San Diego.

TABLE 4.—OTHER PROCUREMENT, NAVY BREAKDOWN WITHIN BUDGET ACTIVITY 2 [1]

[In millions of dollars]

	Fiscal year—		
	1982	1983	1984
Communications and electronics equipment	1,015.1	1,309.5	1,559.7
Ship radars	79.9	171.4	126.3
Ship sonars	202.2	207.4	278.8
ASW electronics equipment	165.9	270.9	418.0
Reconnaissance and electronic warfare	246.6	268.0	208.6
Other shipboard electronics	155.2	176.4	267.2
Shipboard communications equipment	165.3	215.4	260.8

[1] Does not include Shore Communications, Shore Electronics, and Aviation Communications and Electronics.

Budget Activity 2, Communications and Electronics Equipment, is the largest budget activity in the OPN appropriation (Table 4). At your request, we are confining today's presentation to those portions of Budget Activity 2 which relate primarily to shipboard systems. Shore Communications Equipment, Shore Electronics Equipment, and Aviation Communications and Electronics Equipment will be briefed separately to the Subcommittee on Procurement and Military Nuclear Systems.

The fiscal year 1983 budget request for Seapower-related Communications and Electronics Equipment is $1,309.5 million, an increase of $294.4 million over the fiscal year 1982 budget of $1,015.1 million. The rationale for this increase will be addressed during the discussion of each of the six major areas included in the budget request.

The $171.4 million requested for Ship Radars will provide for the procurement of equipment to modernize the Navy's surface search radars, two-dimensional air search radars, and three-dimensional air search radars. The significant items included in this category are the AN/SPS-48 three-dimensional air search radar ($93.7 million), the AN/SP-49 two-dimensional air search radar ($20.3 million), the AN/SYS-2 Integrated Automatic Detection and Tracking System ($10.2 million), the MK-23 Target Acquisition System ($23.5 million), and the AN/SPS-40 two-dimensional air search radar ($14.1 million).

Nearly all of the $91.5 million increase from fiscal year 1982 to fiscal year 1983 for Ship Radars is attributable to the initiation of production of the New Threat Upgrade Combat System, an anti-air warfare program to counter the latest missile threats. The New Threat Upgrade Combat System consists of three principal components, (1) a new SM-2(ER) Block II missile, funded in the Weapons Procurement, Navy appropriation, (2) engagement system modifications, funded in OPN Budget Activity 4, and (3) significant improvements to the AN/SPS-48 and AN/SPS-49 air search radars, including the addition of the AN/SYS-2 to integrate the outputs of these two radars. The modification to the AN/SPS-48 radar will make it more difficult to jam, provide higher elevation angle coverage, increase average power output, provide frequency and pattern flexibility to avoid spot jamming while detecting targets through heavy clutter, and provide a significant increase in overall availability by improving reliability and maintainability. The modification to the AN/SPS-49 radar will provide enhanced electronic counter-counter measures (ECCM) processing and an automatic target detection (ATD) capability. The AN/SYS-2 will correlate contact data from the AN/SPS-48 and AN/SPS-49 and provide a single target output to the ship's command and decision system automatically. Installation of the New Threat Upgrade Combat System is scheduled for Terrier ships of the CG-16 and CG-26 classes and in CGN-9, CGN-25, and CGN-35 (21 Terrier ships). It is also scheduled for installation in Tartar ships of the CGN-36, CGN-38, and DDG-993 classes (10 Tartar ships).

The $207.4 million requested for Ship Sonars will provide for the procurement of equipment to modernize the Navy's surface ship sonars and submarine sonars. $19.1 million is requested to continue the procurement of modification kits for the AN/SQS-26 and AN/SQS-53 surface ship sonar series. These modifications, most of which have been in production since fiscal year 1978, will improve the reliability and maintainability of these sonars as well as increasing their operational capabilities. $70.2 million is requested for the AN/BQQ-5 submarine sonar to continue the procurement of modification kits to upgrade these sonars to the AN/BQQ-5C Expanded DIFAR configuration. These modification kits have been in production since fiscal year 1981 and will provide a significant improvement to the acoustic sensors on our tactical submarines. $46.5 million is requested for Fleet Ballistic Missile System sonars to modernize the sonars on our Polaris and Poseidon submarines. The fiscal year 1983 budget request contains the first production funding for an improved AN/BQR-15 towed array. Finally, $57.5 million is requested for replacement sonar switches and transducers for both surface ship and submarine sonars. Switches and transducers are considered to be significant fleet readiness items, and for this reason the fiscal year 1983 budget request is significantly higher than the fiscal year 1982 budget of $33.6 million.

The $270.9 million requested for Anti-Submarine Warfare (ASW) Electronics Equipment provides for the procurement of a diverse group of ASW-related equipments. $112.0 million is requested for the continued modernization of both the underwater segment and the shore processing segment of our SOSUS system. $77.3 million is requested for the initial production of the AN/SQR-19 Tactical Towed Array Sonar (TACTAS) system. The AN/SQR-19 will be backfitted into the Navy's DD-963, FFG-7, DDG-993, and CG-47 class ships where it will serve as the primary long-range, passive acoustic sensor to "trigger" the Lamps MK III system. Five AN/SQR systems will be procured in fiscal year 1983 following DSARC III in March 1983. $16.7 million is requested for initial production of new towed arrays and modification kits for the AN/SQR-18 Tactical Towed Array Sonar (TACTAS) system which is installed on most FF-1052 class ships. Other items requested in the ASW Electronics category include improvements to the AN/SQR-17 Acoustic Processor ($16.9 million), shore equipment in support of SURTASS ($13.9 million), modernization of our shore-based ASW Operations Centers ($11.7 million), and other AWS equipments ($22.4 million).

The $268.0 million requested for Reconnaissance and Electronic Warfare Equipment provides for the procurement of anti-ship missile defense (ASMD) electronic warfare (EW) systems such as the AN/SLQ-17 and the AN/SLQ-32, the procurement of cover and deception systems, the procurement of tactical intelligence systems for surface ships such as Outboard and the Naval Intelligence Processing System (NIPS), and the procurement of signal exploitation systems for submarines such as the AN/WLQ-4, the AN/BRD-7, and the AN/BLD-1. The bulk of the funding in this category is to procure the remaining systems needed to complete the inventory objective of AN/WLQ-4 (Prairie Wagon) systems.

The $176.4 million requested for Other Shipboard Electronics Equipment includes $25.5 million to commence the modernization of the Navy Tactical Data Systems (NTDS) on cruises and aircraft carriers, $23.4 million to continue the procurement of Tactical Flag Command Center (TFCC) equipments, $21.4 million for TRIDENT electronic equipment, $13.6 million for cryptologic equipment, $19.9 million for the Ship Support Improvement Program (SSIP), $50.3 million for spares and repair parts, and $22.3 for miscellaneous electronic equipments.

The $215.4 million requested for Shipboard Communications Equipment includes funding for general shipboard communications ($49.6 million), unique submarine communications ($21.8 million), satellite communications terminals ($49.7 million), and cryptographic devices ($94.3 million). Within the $49.6 million requested for general shipboard communications, more than half of the funding is for UHF radios. Two new radios, the AN/WSC-3 and the AN/URC-93, are being procured to replace seven obsolescent UHF radios currently in the fleet. Within the $21.8 million requested for submarine communications, $7.0 million is budgeted to upgrade the existing Verdin shore-to-ship VLF receives installed on our strategic submarines, and $12.7 million is budgeted to provide a series of Tomahawk-related improvements to the radio rooms of our tactical submarines. Within the $49.7 million requested for satellite communications terminals, $14.1 million is budgeted for procurement of Demand Assigned Multiple Access (DMA) systems, while $12.9 million is budgeted for AN/WSC-6 SHF satellite terminals. The DAMA system provides a five to one increase in channel capacity on the Leasat satellite system, thereby enabling Leasat to have a capability comparable to Fltsatcom. The AN/WSC-6 terminal will operate through the DSCS satellite series in the SHF frequency band and will be installed on aircraft carriers, selected cruisers, and other flag ships. The $94.3 million budgeted for cryptographic devices provides for the continuing support of our communications security program. Although funded by Navy, the cryptographic devices are procured through the National Security Agency.

TABLE 5.—OTHER PROCUREMENT, NAVY BREAKDOWN WITHIN BUDGET ACTIVITY 4

[In millions of dollars]

	Fiscal year—		
	1982	1983	1984
Ordnance support equipment	830.1	785.2	985.6
Ship Gun Ammunition	111.7	90.1	154.2
Ship Gun System Equipment	72.3	37.4	34.5
Ship Missile System Equipment	291.0	350.0	396.0
FBM Support Equipment	68.6	55.3	55.3
ASW Support Equipment	87.3	69.9	105.4
Other Ordnance Support Equipment	140.1	125.9	162.7
Spares and Repair Parts	59.1	56.6	77.5

The next Budget Activity is Ordnance Support Equipment for which $785.2 million is requested. This represents a decrease of $44.9 million as compared with fiscal year 1982 (Table 5). The funding requested in this Budget Activity will procure Ship Gun Ammunition, modernize Ship Gun, Missile, and Anti-Submarine Warfare (ASW) Support Equipments, and will procure FBM and Other Ordnance Support Equipment.

A total of $90.1 million is requested for Ship Gun Ammunition which is a decrease of $21.6 million from the fiscal year 1982 program. The most significant programs included in the Ship Gun Ammunition fiscal year 1983 request are the 5"/54 Ammunition at $28.0 million, 76mm Ammunition at $20.4 million, and Close In Weapon System (PHALANX) Ammunition at $34.6 million. 5"/54 Ammunition is used in support of the 5"/54 Gun Mount which is the most common gun mount in the surface fleet. At the end of fiscal year 1983, 154 ships of the surface Navy will utilize this gun mount against air, surface, and shore targets. The 76mm request of $20.4 million will be used for the MK-75 Gun Mount on the FFG-7 class in support of its primary AAW and ASUW missions. The PHALANX request will provide for procurement of 20mm ammunition to support the anti-missile/self defense mission.

$350.0 million is requested for Ship Missile System Equipment which is an increase of $59.0 million over fiscal year 1982. These equipments will be utilized to modernize and increase the shipboard offensive and defensive missile capabilities. These programs include Surface Missile System (SMS) Ordnance Alterations (Ordalts), Aegis CSEDS equipment and Surface/Submarine Tomahawk Support Equipment. The SMS Ordalt program is designed to improve the reliability, performance, and safety of currently deployed missile systems: Terrier, SM-2, Tartar, and NATO Seasparrow. Significant items included in the fiscal year 1983 request of $116.7 million are the procurement of six CG/SM-2 combat systems and equipments to support the installation of two New Threat Upgrade (NTU) systems. The NTU modification will provide additional enhancements (e.g. radar and ECM improvements) to the baseline CG/SM-2 system to increase the capability of Terrier ships to counter modern, high speed/altitude missile threats. SMS Ordalts also includes the procurement of self defense systems such as NATO Seasparrow Surface Missile System and associated improvements. The Aegis CSEDS request of $44.0 million will procure equipments necessary to establish the in-service engineering and fleet training program for *Ticonderoga* (CG-47) class Aegis cruisers. This funding will provide special tooling and test equipment for unique Aegis depot activities, procure computers to outfit the Aegis Computer Facility, and training equipment for the Aegis Education Center. These facilities will enhance the combat system readiness of Aegis cruisers and ensure that potential in-service problems such as operational crew training and tactical computer program problems are properly addressed and resolved. Finally, the Tomahawk Support Equipment request of $176.2 million provides nine surface Weapon Control Systems (eight ship and one trainer) and 18 submarine modifications (16 shipboard and 2 trainers). In addition, this funding provides for the backfit of the Tomahawk Vertical Launch System (VLS) on one DD-963 Class ship and two SSN-688 Class submarines.

The fiscal year 1983 request for FBM (Fleet Ballistic Missile) Support Equipment is $69.9 million, a reduction of $17.4 million since last year. This request provides support and training equipment for the nation's first line strategic deterrent, the FBM Submarines. The most significant program in the FBM category is Polaris/Poseidon Support Equipment at $39.4 million. Equipment procured in this line, such as the Electrostatically Supported Gyro Monitor, will provide improvements required to maintain the operational capability of the current FBM Submarines. Equipment procured in this line will also be installed in submarine tenders and shore installations providing direct FBM support.

The most significant program included in the ASW Support Equipment category is the All Digital Attack Center (MK-117 Fire Control System) at $51.3 million. The MK-117 is being installed aboard SSN-594 and SSN-637 class submarines during regular overhaul. The MK-117 replaces the existing MK-113 system with a modern, high speed digital computing facility and digital driven display. This enables the submarine to conduct advanced target motion analysis, to automatically set the MK-48 torpedo, and to control and display weapon launch.

A total of $125.9 million is requested in fiscal year 1983 for Other Ordnance Support Equipment which consists of a variety of other ordnance programs ranging from procurement of Small Arms Ammunition ($15.5 million) to Energy Conservation support ($.9 million). The remaining $56.6 million in this Budget Activity is for Spares and Repair Parts.

Mr. Chairman, this completes my prepared statement. I hope that this presentation provides a meaningful display of the improved capabilities within the Navy which we hope to achieve through the execution of the fiscal year 1983 Other Procurement, Navy budget.

I am ready to respond to any questions you, or members of the Committee, may have.

Mr. **Bennett**. I judge from what you said that you took a look at one gun. I guess you are saying it will be very complicated to look at all the guns and come up with a broad, sweeping picture of all of them under one umbrella. There may be something that you can say to us about what this represents if we approve this.

I notice that fiscal year 1982 was larger than fiscal year 1983, which is the current year. I am familiar with the next one. You usually go out in outyears when you are not actually asking for them. That is something I have experienced ever since I have been here. I was kind of curious why you dropped this year from last year.

Admiral **Miller**. There is an explanation for that. Whether it is logical or not, I am not certain. You will recall the supplemental that was put in when the new administration came in and we had a 1982 amendment, it was very heavily weighted toward readiness and sustainability. We bought a lot of ammunition.

Mr. **Bennett**. The other thing I was thinking would be good—you may not be able to give us this this year—it would be helpful if we knew how we are coming along. You told us with regard to the 5 inch, [deleted].

Admiral **Miller**. I would like to provide that for the record.

Mr. **Bennett**. I would like to know that.

Admiral **Miller**. Yes, sir; we will give you a summary.

[The following information was received for the record:]

AMMUNITION PROCUREMENT

PERCENT OF ASSETS TO INVENTORY OBJECTIVE REQUIREMENT

	End of fiscal year 1983 buy	End of fiscal year 1987 buy
3"/50 Ammo	Deleted.	Deleted.
5"/38 Ammo		
5"/54 Ammo		
CIWS Ammo		
76MM Ammo		

Mr. **Spence**. You gave us a summary of critical, long-lead equipment for FFG-7 and PHM-ships, what is critical? Can you tell us what the things are that are critical?

Admiral **Miller**. I am afraid I don't have that detail with me right now. Perhaps one of my backups will have it. If I could provide that for the record.

[The following information was received for the record:]

FFG-7 AND PHM CRITICAL EQUIPMENT

After discussion with the committee staff, it was decided that no response to this question was required.

Mr. **Spence**. I know it is in the big book and is pretty detailed.

Also, extending the service life of MSO's to last up to 1991, if we could find out what is to be done to extend the service life of the MSO's——

Admiral **Miller**. Yes, sir. We have about six of those, I believe, this year, in rather extensive overhaul, where we are going to do quite a bit of work on their engines in order to make them available for continued service.

Mr. **Spence**. We don't have too many left, do we?

Admiral **Miller**. No, sir.

Mr. **Spence**. Small-boat procurement, what is the difference between this line and the service-craft line, or are they the same thing?

Admiral **Miller**. Service craft tend to be the boats that we use for tugboats or harborcraft that provide oil and services to ships not out on the high seas.

Smallcraft tend to be the small boats that we buy to be carried on other ships. That is the differentiation.

Mr. **Spence**. Service craft are included in the SCN account?

Admiral **Miller**. Yes, sir.

Mr. **Spence**. Now, 81-millimeter rounds, what kind of gun do we have shooting 81-millimeter rounds?

Admiral **Miller**. Those are rounds that we use for mortars for the Seabees; they have self-protection.

Mr. **Spence**. Spares and spare parts, we also have some in the SCN account?

Admiral **Miller**. Yes, sir.

Mr. **Spence**. Is that the initial buy, and these are follow-up buys?

Admiral **Miller**. Spare parts? They can be any of the spare parts to support the OPN equipments, and the OPN equipments tend to be all of your radars, sonars and any of the equipments that are not bought in the SCN account, that are installed in ships subsequent to the initial building of the ships.

Mr. **Spence**. Those are just a few things I picked out. It did occur to me—we have so many different items, a big thick book, just thousands of items, I guess—how do you keep track of your requirements? I use to fire 40-millimeter rounds for practice. I was a gunnery officer. I know how you keep all those accounts and you can't keep up with them. How do you keep account of the requirements for these thousands of items that you have to say grace over?

Admiral **Miller**. One of the ways is the way we discussed on the ammunition. We have an inventory objective for a specific item based on the planned usage of the item, whether it be a piece of ammunition or a spare part. So, we know that item A is going to be used so many times a year and it has to support so many systems. We develop an inventory objective. Then we take the inventory objective and we try to buy to try and get ourselves to that inventory objective while at the same time what we have is being eaten up in daily usage.

Mr. **Bennett**. What percentage of the inventory objective do you eat up in firing? How do you arrive at it? How much do you shoot a year?

Admiral **Miller**. I am not equipped to say exactly how much we shoot a year. I can provide for the record how many rounds we shoot, and then we can divide that out and get the percentage of how much is utilized; but that is all part of the calculation to determine what we are going to get achieved versus our inventory objective at the end of that fiscal year.

Mr. **Bennett**. Do you really want to achieve the inventory objective, or do you want to keep it in the future all the time, so that you can have a going production?

Admiral **Miller**. That is a very good point.

Mr. **Bennett**. That is the reason I raised it.

Admiral **Miller**. Yes, sir. For some of the things where we must maintain a warm industrial base, one could make a good argument to say we wouldn't want to buy all our ammunition out because we would not want to shut down the ammunition manufacturing plant.

Mr. **Bennett**. I was raising it from the standpoint of finding out if that was part of your policy. I don't know whether it should or should not be. The fact that it intrigues you does not mean that that is what you are doing.

Admiral **Miller**. In ammunition I can say that is true.

Mr. **Bennett**. In other words, you don't really try to achieve your total objective because you want to have some production going along all the time; otherwise, the line would be closed down and you would have to crank it up. So. Mr. Hartnett and I will never see the end of it. We will be seeing this year after year.

Mr. **Hartnett**. We will be providing jobs for ammunition workers right on; is that right?

Mr. **Bennett**. Otherwise you will have something that got jelled in history and you would not have anybody to produce it. If you had a war, that would be a really bad situation. Something like our shipbuilding operation, if you built all the ships in 1 year, you would not have any ships built in the future?

Admiral **Miller**. It is not as bad as it really sounds, either, because we are transitioning now new types of ammunition. We are not building any 8-inch ammunition any more. We are now building 5-inch. We are buying less 5-inch and building less 5-inch than we were in the past. We are now building ammunition for the close-in weapon systems. So, there is a transition from one into the next.

Mr. **Bennett**. We want to be sure we are not producing the wrong kind of rounds just to make an industry happy.

Mr. HUTTO. This discussion of ammunition intrigues me. I was wondering about simulation firing. You know, the aircraft use that a great deal; is that not done where you don't use ammunition really, but you have it computerized and know whether or not you hit the target and so on; is that not used a great deal in Navy training now?

Admiral MILLER. I will let Admiral Hostettler answer that.

Admiral HOSTETTLER. I know of what you speak in the case of air bombardier training.

Mr. BENNETT. Soldiers do it. I did it in World War II.

Admiral HOSTETTLER. The Marines do that. They still do a lot of that simulation. A couple of things are against us on ships. You can't set up simulated ranges at sea like you can ashore. Say for the Marines, you have Redeye, you can have a moving target on the wiring buoy and you stake out a range and you let go a simulated round.

At sea it is pretty hard to simulate, if you will, against a target. Clearly, we go through GQ on some ships every day of the week except Sunday. The crew in training went through loading drills. We did everything but shoot out that barrel. There comes a time, for several reasons, when you have to let go. I am convinced that anyone who can shoot is one who does shoot because people are involved, and that gun mount does not get a workout until that first round leaves the barrel. That is when the vibration sets up; that is when you have your casualties. You will never know you are going to shoot until you shoot that gun mount. I am a believer in firing a reasonable amount of gun ammunition. Gun ammunition has tremendous payoff in terms of crew training, mount maintenance, and readiness.

Mr. BENNETT. Do you shoot at Culebra?

Admiral MILLER. We are not right now.

Mr. BENNETT. How about Vieques?

Admiral MILLER. We are still shooting at Vieques.

Admiral HOSTETTLER. We have to qualify every ship and actual firing with Marines on the beach. There is no substitute for it.

Mr. HUTTO. I would not argue with you on that, Admiral. I think you are right; you have to have some actual firing. In fact, I was a sightsetter on an 8-inch gun. It seems to me that our aircraft are simulating all the time and they know whether or not they score. They have moving targets. They have other planes that they are shooting at and so on.

I was wondering if the Navy was not getting into more of that, so that you can actually simulate and know how you are doing without expending the ammunition?

Admiral HOSTETTLER. It is difficult in an open sea to get that kind of distance. It is very hard to set up a range simulation where you know where the ship is pointed and the gun is pointed and where the target is.

Mr. BENNETT. You say you can't do it?

Admiral HOSTETTLER. We cannot simulate in the same manner that air-to-air dogfighting can stimulate.

Mr. BENNETT. You don't do it?

Admiral HOSTETTLER. No, sir, not at sea.

Mr. **Hutto**. In the R. & D. Subcommittee we have 3,000 items. I am wondering why we are not learning how to do that if it would save some ammunition.

Mr. **Bennett**. He thinks somebody might be able to think that out. I am not sure. Anyway, you got challenged. Next year we will ask you whether you have thought it out.

Mr. Dougherty.

Mr. **Dougherty**. Admiral, how much money do we spend each year in procurement of different products for the Navy from overseas sources? Specifically, I am aware of a contract given to Great Britain on fin stabilizers at the expense of an American-based firm in Virginia. I am aware of the fact we had some kind of memorandums of understanding that exist between this Government and most other governments of the free world. I would like to know how much of the total dollars we give to the Navy does the Navy see fit to spend overseas?

Admiral **Miller**. I can't tell you off the top of my head, but I will attempt to get the information and put it in the record.

[The following information was received for the record:]

OVERSEAS PROCUREMENT

During fiscal year 1981, Navy awarded contracts for $692 million overseas. Thus far in fiscal year 1982, through 1 March 1982, the awards total $99 million. These amounts represent the value of Navy prime contracts awarded for work overseas.

Mr. **Dougherty**. Does the Navy buy significant parts of materials they need from Japan? Is there a memorandum of understanding with Japan?

Admiral **Miller**. We do buy material from Japan. We do buy material from our NATO partners. There has been a considerable effort to have the United States buy some from our NATO partners, at the same time the NATO partners are buying weapon systems from us.

Mr. **Dougherty**. Let us talk about Japan. Give me an example of something we buy from Japan that you would be responsible for.

Admiral **Miller**. I can't give you an example right now.

Mr. **Dougherty**. Is it true that the Japanese will not buy American tanks?

For the record, Mr. Chairman, the Government of Japan saw fit not to buy American-made tanks, but to insist on the right to manufacture those tanks in Japan. I guess some of us have had it with the Japanese. I would like to have a copy sent directly to me as to the dollars that were spent in fiscal year 1982 to purchase products from Japan. I don't care whether you are talking about spare parts for radios or whatever; I want to know how much money the Navy spent in Japan to purchase products through memos of understanding which negate the Buy American Act, and the total dollar value of materials purchased. Do you have an idea of what a Sidewinder missile costs?

Mr. **Bennett**. While they are looking that up, I want to say it is my opinion—but I have not researched it—that we sell a lot more military equipment abroad than we buy abroad in the United States; however, there may be a case or two like Japan where we buy a lot more than they are willing to buy from us. I am not sure.

Mr. **Dougherty**. That is what I want to find out, Mr. Chairman.

Admiral **Miller**. The Sidewinder 1983 procurement unit cost—that is not just hardware but cost of support and so forth—is $86,000. The total average program unit cost of the total round buy is $80,000.

Mr. **Dougherty**. How long have we been buying Sidewinders? I am trying to relate this to the testimony this morning on the 5-inch round for guided missiles. We had some problems with the fact it is going to cost $120,000 on the first run.

The initial cost on developing the Sidewinder missile is far in excess of $80,000 per round, and the cost per unit would drop when you go into mass production and all that bit.

The point I want to make is that for a guided shell, 5-inch, whatever they were talking about, indeed $44,000 may be too low and $60,000 may be too low. Maybe I am ahead of myself, but what about the ability of the Soviets through space satellites to jam all of our communications on ships at sea, are we buying any kind of material to jam the jammers or do they have that potential?

Admiral **Miller**. I can give you an answer from the Budget Office point of view, watching the procurements of our antijam systems, and the answer is yes, we are. We are putting quite a bit of money into the joint program, JTIDS, which will eventually provide all the services with a jam-secure communications network.

We are also buying several systems of onboard jammers for our aircraft and making every effort that we can to stay ahead of the Soviet jamming capability. It is a very expensive thing to do and it is very difficult. It is trying to counter a move on their part with a move on our part, and it is a constant battle to stay ahead.

Mr. **Dougherty**. We have a report that the Soyez space mission may be an attempt by the Soviets to develop a space-based system to track American ships at sea and develop ways to jam their communications. Is this anything that you would like to comment on?

Admiral **Miller**. I don't feel qualified to comment on that, sir.

Mr. **Dougherty**. I am concerned, and I guess this is because I am an old communications officer, that we may find ourselves when the flag goes up in a situation where we have not properly addressed the communications electronics problem.

We will have submarines and ships at sea and not be able to communicate with them. I don't know what your reluctance to talk about it is.

Admiral **Hostettler**. The space aspect only. Maybe I could comment. To follow up, [deleted].

No. 2, [deleted].

The jamming that we talk about here and what we are trying to develop and have now programed, antijam, tactical communications where jamming will be at its worse both air and on the surface, on the occasion of, say, a major Backfire raid, hostile enemy bombers coming into your group, each aircraft has a jammer for the purpose of disrupting our command control response.

The No. 1 priority for us is to cure that problem. This program that I am going to talk to does that, does it perfectly. It is always relative; it is how much can I afford to do relative to so much jamming. I suppose over the years they can produce more jammers; we produce better counters. It is always a check and balance. Right now we think we have a program that will do the job. Will it get better in 10 or 15 years? Yes, sir.

Mr. **Dougherty**. You used two words. The first word is "current." Do you anticipate the Soviets will make some kind of advances in the future in ability to jam?

Admiral **Hostettler**. No, sir.

Mr. **Dougherty**. Do they have the ability to track our submarines at sea?

Admiral **Hostettler**. No, sir, they do not, nor do we anticipate that they will.

Mr. **Dougherty**. You are talking about ability to track our surface vessels?

Admiral **Hostettler**. Particularly our large vessels. [Deleted.]

Mr. **Dougherty**. The point is that you did not respond to the space situation. Is that because you don't have a comment, or is it because it is not appropriate?

Admiral **Hostettler**. It is both. I am not really qualified to go into it in depth, but I think, to answer the question properly, what little information I have is that I think not of the normal classification, sir.

Mr. **Dougherty**. I would like to indicate this committee ought to take a hard look at all areas of communications.

Mr. **Bennett**. If you set them up to do it privately, they will do it.

Mr. **Dougherty**. It is a little difficult to address it on the floor.

Mr. **Bennett**. You are not going to address it on the floor. Nobody will raise the question.

Mr. **Dougherty**. On torpedoes, have we yet developed a torpedo that will stay up with the Alpha-class submarine?

Admiral **Hostettler**. [Deleted.] I will cover that under my ASW weapon presentation.

Mr. **Dougherty**. Are you spending any money in the budget this year to buy V/STOL aircraft? Are we doing further work on development on the naval V/STOL aircraft?

Admiral **Miller**. We are buying the AV-8B.

Mr. **Dougherty**. We keep hearing that the Navy is spending money for R. & D. to get V/STOL capability, that they don't find the AV-8B a proper vehicle. I am asking you how many dollars are being spent in the Navy budget to R. & D. or develop a V/STOL aircraft?

Admiral **Miller**. There is a V/STOL line in the R. & D. account that was merged in fiscal year 1982 by the Department of Defense into V/STOL program under the leadership of the Army, and the Navy and the Air Force are participating in the V/STOL effort of the Army. We each have funds in our R. & D. account for that.

Other than that, we are not procuring any V/STOL aircraft.

Mr. **Dougherty**. I find it unique that the Army would have the lead in developing the V/STOL aircraft.

Thank you, Admiral

Mr. **Bennett**. Does anybody else have any questions?

Mr. **Hartnett**. I have an inquiry. I probably used up my 5 minutes earlier.

Admiral Hostettler, are you going to address torpedoes?

Admiral **Hostettler**. Yes, sir.

Mr. HARTNETT. The other thing that is of a great deal of interest to me, Mr. Chairman, is mines.

Mr. BENNETT. We are just about to get into that.

Mr. HARTNETT. Does that come under you, too, Admiral Hostettler?

Admiral HOSTETTLER. Yes, sir, it does. I will speak to the procurement program we have underway. I think we are prepared to address the subject that is of interest to you, which is MDM.

Mr. SPENCE. Somebody needs to put in a word for the other side. I am concerned about not doing enough practice. Anyone who has ever had to shoot or watched anybody shoot, considering the pitch and roll of the ship and the target, and everything else, and just recently having observed some ships shooting, Mr. Chairman, somebody decides how many rounds you are going to shoot. They use to tell us you can shoot only three rounds of 5 inch and so many rounds of 40 millimeter, and that is not enough.

I know that back in World War II, just thinking back, for a long time the torpedoes wouldn't even explode and nobody knew about it, I guess, because they were not allowed to shoot live torpedoes at live targets. The things were going under ships, over ships and hitting ships and bouncing off, and none exploded because you did not shoot enough live shots to find out whether the darned thing worked or not.

The same thing could be true of shooting rounds out of 5 inch or 40 millimeter. I want to see more shooting. There is no substitute for it. No kind of game you play on television or anything else will be a substitute for live hands-on shooting. I just wish we did more of it.

Mr. BENNETT. What percentage of Navy people actually see something fired? I kind of have a feeling there is a possibility that a man who just retired after 20 years may never have fired at anything. That is probably not so.

Admiral MILLER. No, sir. The guns we fire quite frequently.

Mr. BENNETT. You say quite frequently; does that mean every 5 years or every 10 hours?

Admiral MILLER. I would say a typical ship is going to have 4 or 5 live gunnery shoots of consequence every year at which they would shoot up to 30 or 40 rounds, depending on the gun that they had onboard. The people who man those mounts are going to be the ones that shoot them.

Mr. BENNETT. You would say it is an exceptional thing for a man who is in a gunnery position not to have participated in something once a year?

Admiral MILLER. Absolutely.

Mr. BENNETT. I am glad to know that.

Mr. HARTNETT. I want the record to show they can fire $1 billion worth of practice rounds a year. I am not complaining about that. My question is, is there not a point in time when you have built up enought to fill your magazines and arsenals?

Mr. BENNETT. He has answered that by saying yes, [deleted] but we are not really quite sure whether we really are going to be really happy about filling up, because we want to keep the line going.

Admiral Hostettler.

BIOGRAPHICAL SKETCH OF REAR ADM. STEPHEN J. HOSTETTLER, USN

Rear Admiral Stephen John Hostettler was born in Evansville, Indiana on 23 August 1931. He was graduated from the U.S. Naval Academy with the class of 1953. He was promoted to flag rank in May 1979.

Upon being commissioned, he served two successive tours in Pacific Fleet destroyers. The first was in USS *Eversole* (DD-789) as First Lieutenant and the second in USS *St Clair County* (LST-1096) as Executive Officer which was followed by a tour as Assistant Operations Officer, Staff of Amphibious Operational Training Unit, Pacific.

In January 1961, after two and one-half years of graduate studies at the U.S. Naval Postgraduate School, Monterey, California, he was awarded the degree of Master of Science in Electrical Engineering. He then served in the commissioning crew of USS *Lawrence* (DDG-4) as Weapons Officer until February 1963. He was then ordered to Staff, Commander Cruiser-Destroyer Force, Atlantic Fleet, for a two-year tour as Guided Missile Officer. Upon completion of the course of instruction at the Armed Forces Staff College in 1965, he was assigned to USS *Conyngham* (DDG-17) as Executive Officer.

He served in the Bureau of Naval Personnel in the Officer Distribution Division from 1967 to July 1969. Upon graduation from the Program for Management Development, Harvard Business School in January 1970, he assumed command of USS *Cochrane* (DDG-21) until September 1971. He subsequently was assigned as Surface Operations Officer, Staff Commander Carrier Division Seven from November 1971 through June 1973.

He was a graduate of the Industrial College of the Armed Forces in June 1974. Prior to his assignment to command USS *Halsey* (CG-23) from March 1977 until May 1979, he served as Director, Medium Range Missile Division (Tartar/SM-1 missile program office), Headquarters, Naval Sea Systems Command.

From July 1979 to July 1981, Rear Admiral Hostettler served as Commander U.S. Naval Forces, Korea; Commander Naval Component, Military Armistice Commission, Korea. In addition he was assigned duty as Deputy Commander, Naval Component Command, Combined Forces Command, Korea.

In addition to various awards, Rear Admiral Hostettler has been awarded the Bronze Star Medal, Meritorious Service Medal and the Navy and Meritorious Unit Commendations.

Rear Admiral Hostettler is married to the former Lucy Ann Ingalls of Bedford, Indiana, and they have two children, Kathryn and Stephen Jr.

Rear Admiral Hostettler is now Director, Surface Combat Systems Division with the Chief of Naval Operations.

STATEMENT OF REAR ADM. STEPHEN J. HOSTETTLER, U.S. NAVY, DIRECTOR, SURFACE COMBATANT SYSTEMS, OFFICE OF THE CHIEF OF NAVAL OPERATIONS

Admiral **HOSTETTLER**. It is my privilege to be here before the subcommittee to present the munitions requirements for the U.S. Navy contained in the weapon procurement, Navy appropriation for the fiscal year 1983 budget request and those items which require authorization for fiscal year 1984.

I have provided a detailed statement for the record, Mr. Chairman. I would like before I start to introduce on my right Adm. J. B. Wilkinson, U.S. Navy, Deputy Commander for Plans and Programs, Naval Air Systems Command, who is here to answer any detailed questions you may have, particularly on air-to-air and air-to-ground missilery.

I also have behind me some staunch program managers and sponsors who are prepared to answer detailed questions on several of our important weapons.

As you are well aware, the principal mission of the Navy remains in some ways very much unchanged since the days of John Paul Jones. The principal part of that mission is being prepared to conduct prompt and sustained combat operations at sea successfully.

You are also aware that it is not just ships and aircraft and submarines which destroy or confuse the enemy; it is the weapon systems that are on those ships, submarines, and aircraft that do that job.

In the final analysis it is the bullet, the weapon, the missile itself, that does the kill. Accordingly, we must have weapons; we must have weapons that are adequate to the task, that are equal to or superior to the threat that we face.

Just as important, we must also have sufficient numbers of those weapons if we are to sustain the engagement. We do not today have the numbers that we need, but we have, we think, a balanced program consistent with the affordability which is focused on meeting that requirement.

Navy inventory objectives determine procurement requirements for all our weapons. Their determination is sensitive to the estimated enemy order of battle, defensive capability, scenarios, weapon system capabilities on our own ships and aircraft and our logistics as well as the battle attrition considerations.

INVENTORY OBJECTIVES

It is a changing number then and it is going to change with the threat and our capability to react to it. Inventory objectives establish the minimum prudent levels rather than absolute requirements. Threat-oriented weapon requirements for fiscal year 1983 are computed on terms of individual weapon requirements. As we go through the missiles I will be pleased to show you a slide which lists the inventory objective for our rounds, where we are today in the inventory and where we plan to be in the 5-year defense plan as well as where we stand with respect to the various tactical launching hulls, if you will, the load-out requirements to fill magazines so that you can have some idea where we are relative to our current real world needs.

Mr. **Bennett**. You are going to show another one that shows in addition to the objective you have?

Admiral **Hostettler**. Yes, sir, I will show a slide with curves for each one of those, so that you can have a measure of where we are today and when are we going to get to our inventory objective, if at all.

The fiscal year 1983 total request of about $3.901 billion is an increase of about 20 percent over the approximately $3.215 billion appropriated for fiscal year 1982.

With your permission, Mr. Chairman, I would like to address each of the warfare areas and the principal weapons used within each of those areas, sir.

First, in the area of strike warfare, I would like to cover our strategic weapon, the Trident missile. The first portion of this request provides for the procurement of fleet ballistic missiles, ancillary checkout and support equipment, and the modification and improvement of facilities required to support the delivery of these missiles to the sea-based strategic deterrent forces.

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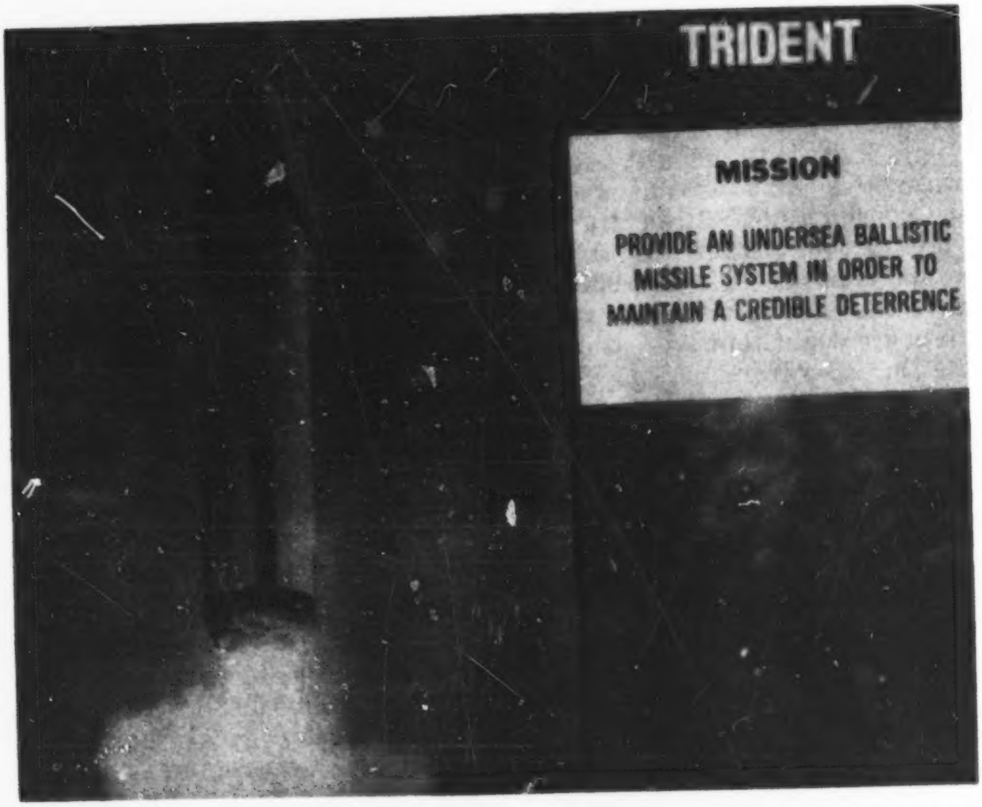

TRIDENT

MISSION

PROVIDE AN UNDERSEA BALLISTIC MISSILE SYSTEM IN ORDER TO MAINTAIN A CREDIBLE DETERRENCE

Trident I procurement—the first Trident, as you know, is a [deleted] missile with up to [deleted] independently targetable reentry vehicles. Trident I [deleted] and with better accuracy at the same time. We will fill those holes and our procurement strategy is to keep up with the holes as they come in. In addition, we have programs for Poseidon backfits for the Trident I missiles. We are requesting 72 missiles this year, a total of $699.5 million. In addition, $43.3 million is for advanced procurement to support next year's buy.

Trident I Missile

	Dollar amounts in millions
Fiscal year 1982 appropriated:	
Quantity	72
Amount	$906.3
Fiscal year 1983 budget request:	
Quantity	72
Amount	$742.8
Fiscal yer 1984 authorization:	
Quantity	72
Amount	$786.8

For 1984 we are requesting again 72 missiles, for $752 million, with advanced procurement request for $33.8 million to support the follow-on missile buys.

TRIDENT I INVENTORY VS. OBJECTIVES

Again, this procurement strategy is based on two things: First, so that we insure that our submarines have a full tactical load-out when they leave the pier; second, it is geared to the initial production in the future of the follow-on Trident II missile.

The Trident II missile first buy is due in fiscal year [deleted] if it remains on schedule, and that would mean out last buy on the Trident I missile will be [deleted] in fiscal year [deleted].

Should the Trident II program slip to any extent, we would have to look at a new end date for the Trident I missile.

Going into the tactical strike weapons, this involves the destruction of enemy ships at sea and projection of power ashore. Antiship and antisurface warfare is one of the offensive arms of the Navy, a capability that allows us to engage the enemy successfully as far as possible from our shores and those of our allies. It is the deterrent that preserves freedom of the seas.

The most significant breakthrough in naval warfare, I believe, in recent history is that of the long-range cruise missile. Central to this initiative is the introduction of Tomahawk antiship and land-attack cruise missiles into our submarines and surface ships. We now possess for the first time the proven technology for a revolution in seapower through the broad distribution of offensive weapons which will greatly enhance the offensive firepower of our battle forces, complement and increase the survivability of sea-based tactical air assets and distribute the high value target base among many ships and submarines, not just one or two.

We have therefore deluded and complicated Soviet targeting and forced concentration of efforts. We have provided flexibility for employment of SSN's and surface combatants in a power projection role in support of battlegroup operations for independent and Third World contingencies.

Tomahawk is the Navy's cruise missile capable of launch from submarines and surface ships against sea targets, and on the sea-target version we are talking about 250 nautical miles at sea, and land-target versions with ranges up to 1,300 nautical miles against key land targets. The land-target version has both conventional and nuclear warhead capability.

The missile is small in radar cross-section and low flight profile trajectory renders it survivable against presently projected enemy offenses.

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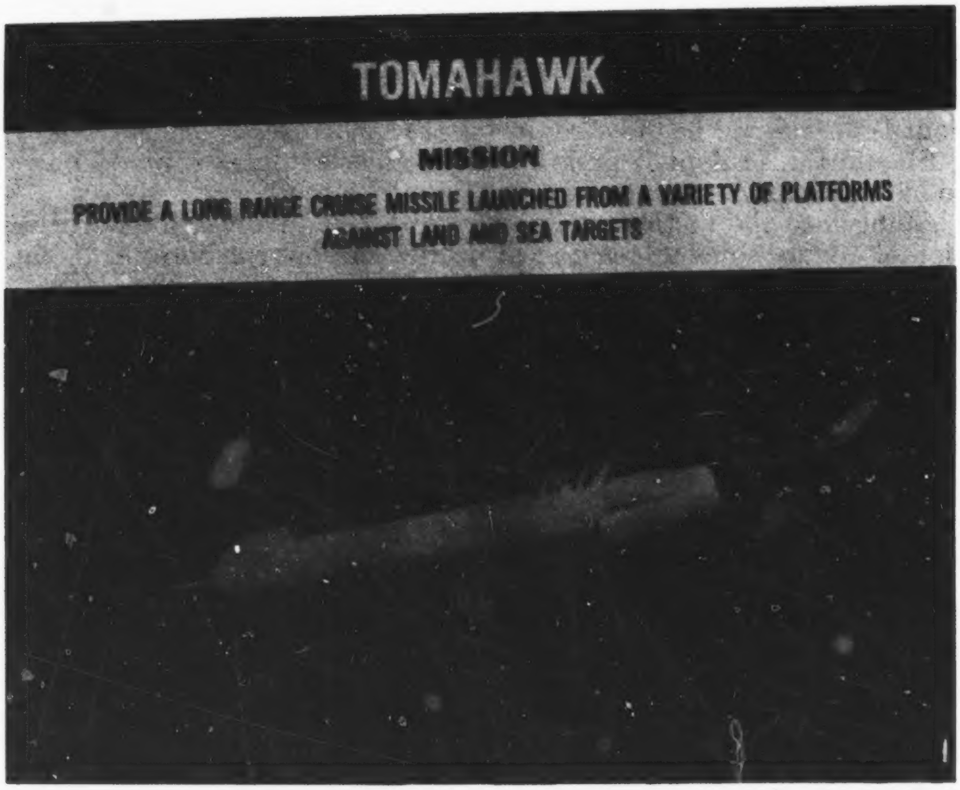

TOMAHAWK

MISSION

PROVIDE A LONG RANGE CRUISE MISSILE LAUNCHED FROM A VARIETY OF PLATFORMS AGAINST LAND AND SEA TARGETS

Tomahawk

	Dollar amounts in millions
Fiscal year 1982 appropriated:	
Quantity	88
Amount	$225.2
Fiscal year 1983 budget request:	
Quantity	120
Amount	$292.2
Fiscal year 1984 authorization:	
Quantity	312
Amount	$599.0

The Navy in fiscal year 1983 is requesting authorization for 120 Tomahawk missiles at a cost of $292.2 million. In fiscal year 1984 we request authorization for 312 missiles at a cost of $600 million. Again, the procurement strategy will ensure that we have sufficient rounds to meet the installation of launchers in ships as they go to sea.

TOMAHAWK INVENTORY VS. OBJECTIVE

I think that you can see the inventory objective at the top, [deleted]. That is our inventory objective. You can see up through 1987 we are pacing our buy to conform to the actual load-out requirements. Do we still want the inventory? Yes, sir, we would like to. We can't afford to get there that fast, quite frankly.

Mr. **Bennett**. That is what worries us a little bit about the language you used. You said that we are doing the best job we can within the degree of affordability. Affordability is one thing to one person, and it is another thing to another person. If you are told by the Secretary of Defense or the President that you can't spend but a certain number of dollars, that does not give this committee any security of feeling that when your battleship goes to sea it will have more than two rounds of this available.

The word "affordability" does not really give us very much to go on. For instance, when your battleships go to sea, will you have enough Tomahawks?

Admiral **Hostettler**. Yes, sir. I will retract that. The battleship is a unique case. As you are well aware, Mr. Chairman, the decision to place Tomahawk on the battleship was not in the initial planning and it was something that we decided we would like to try to do, so we have worked very, very hard to make that happen.

I am now becoming convinced, in spite of the risk, that we are going to make it. Understand, this is a year before we planned to have all these rounds. We will have that capability. Whether we are able to fill up all of those box launchers, all 32 rounds on the day she sails, I don't believe I can say that at this time. That is why I say it is unique.

In this case, every ship that requires a round, as you can see, will have it. That is what I am saying.

Mr. **Bennett**. I hope if you ever come to the conclusion that we are not buying enough rounds that you tell us frankly about it. When you use words like affordability, we are lost; we don't know what you mean by that. That could mean that you were told you could not spend but a certain amount of money for rounds. Since we are now passing on this, I would hate to feel that maybe 5 or 10 years from now, if we ever had a war, they would say Congress never made enough rounds available so that ship was out there but it could not hurt the enemy.

Mr. **Spence**. Another way of saying what he means here, the year before last the Secretary told us the Navy didn't want that new, large nuclear carrier. He was talking priority; the administration would not allow him to ask for it. We gave it to the Navy anyway.

Admiral **Hostettler**. That is not the case here. Affordability is not a word I should have used, except in the generic sense; it has to do with buying all the weapons of the right sort.

Mr. **Bennett**. Let me give you a wrap-up question on it:

Among all of you who are here today, do you have a feeling that a disastrous or bad situation is occurring because you are not allowed to look at the number of rounds or number of things you ought to procure? You have a right to answer this question. You can do it on your professional ability. You are not an official speaker for the Department of Defense or the Navy. You can say professionally you feel there is a dangerous shortage or something like that.

Admiral **Hostettler**. Let me answer that, if I may, this way:

You will see before I leave here today, based on these slides, some shortages below that which—I won't say it is dangerous; [deleted].

Mr. **Bennett**. How much money would it take to catch up?

Admiral **Hostettler**. It would depend on the missiles. Not this one.

Mr. **Bennett**. I mean the whole works.

Admiral **Hostettler**. I am not prepared to answer that question today, sir. You would have to look at it missile by missile. We can take a look at those.

Mr. **Bennett**. I think I would like to know that for the record. This is an executive session; I would like to have that information. In other words, if we are caught short $1 or $2 billion in rounds, it wouldn't do us any good to have ships out there if they can't hurt the enemy. I realize there is a tremendous difference in how many rounds. I have to think back as an infantry soldier. I have to realize some infantry soldiers shot 100 rounds and hit maybe 2 of the enemy because they spray the countryside. We have rifles like that.

Then there are others that will pick out everyone, like he is a sharpshooter; so you have a different psychology on how you deliver the rounds which will minimize the requirement.

Admiral **Hostettler**. Yes, sir. I understand the question. What we are going to find, sir, is that it is not the money that is the problem. The problem could well be that we are transitioning to a new capability, modification, which we need to have. Instead of buying up a large amount which we have to inventory and then try to backfit, if possible, we are slowing down to bring in that new one with perhaps twice as much capability. You will see that coming. It is not money so much that drives us; it is other things that happen, so to speak, and most of it is the changes that are taking place.

We can't afford to inventory rounds. Numbers won't help us if they don't do the trick. We have to be careful about buying rounds which are becoming obsolete or are obsolete. In the case of this one, we have a new round and this practically matches the production capability that we are building, anyway. It is a pretty good mix here.

The second missile that I would like to address this afternoon is the other cruise missile that we have at sea, the Harpoon cruise missile.

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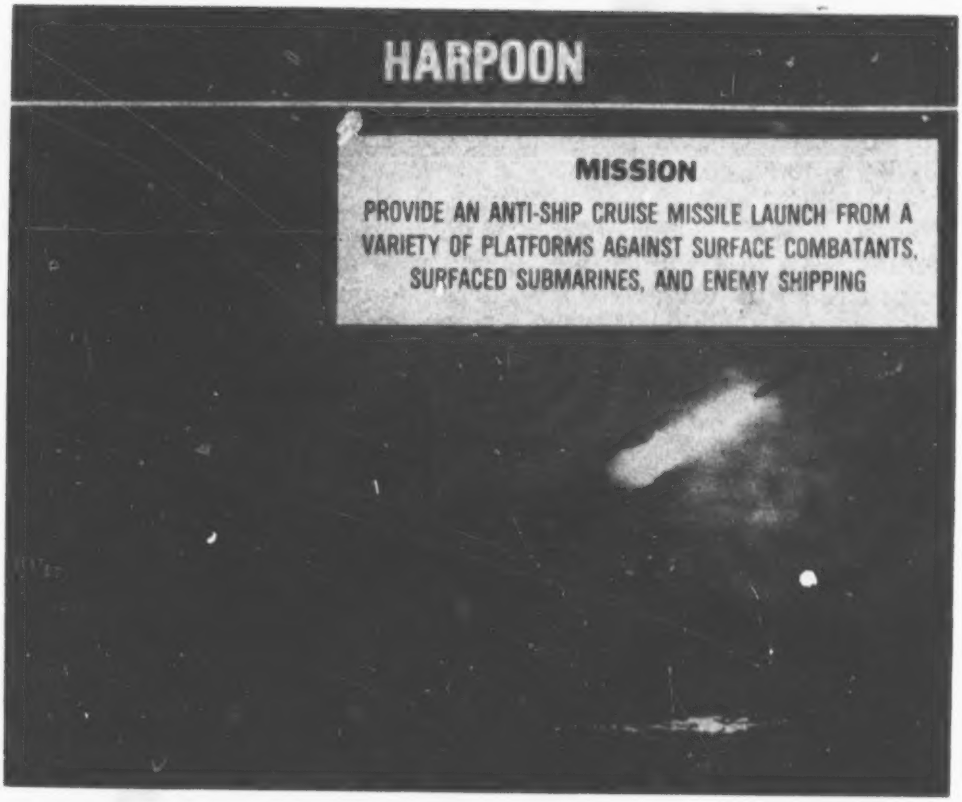

HARPOON

MISSION

PROVIDE AN ANTI-SHIP CRUISE MISSILE LAUNCH FROM A VARIETY OF PLATFORMS AGAINST SURFACE COMBATANTS, SURFACED SUBMARINES, AND ENEMY SHIPPING

The Harpoon missile can be launched by ship, air and submarine, all-weather, effective against enemy surface combatants and merchant shipping.

Mr. BENNETT. Why do we have both of them?

Admiral HOSTETTLER. Primarily, the tactical use is completely different, Mr. Chairman. The Harpoon, which led to our cruise missilery, has been out there for some 6 years, is approximately a 60-mile missile at sea; it is, of course, quite a bit less expensive than the Tomahawk that you saw here which is 250 miles-at-sea range.

Mr. HARTNETT. I thought it was 1,500?

Admiral HOSTETTLER. Different versions, sir. The ship-to-ship version is approximately 25 miles. The land-attack version that you launch at sea or from a submarine or surface ship has up to 1,300 miles, depending on which configuration, whether conventional or nuclear configuration. They are different weights.

So, we have a quantum jump in terms of capability between Harpoon and Tomahawk. What is suggested is an appropriate mix here. Because of the cost differences, I don't want to fire Tomahawk when I can use 60-mile Harpoons to get the job done just as well.

Mr. BENNETT. That answers the question.

Admiral HOSTETTLER. The Harpoon missile was first operational in the fleet in 1977. We are at the present time 30 percent deficient in achieving surface platform fills and 27 percent deficient in total platforms fills. We are increasing our production to 340 missiles commencing in fiscal year 1984 in order to alleviate the ship-fill deficiencies that we are currently experiencing. The low-cost improvement retrofit called the block 1-B missile, which improves survivability of that missile at sea [deleted] 23 of the last 23 combined United States-United Kingdom demonstration firings of this 1-B missile were successful.

Following that, a block 1-C missile is planned for fiscal year 1983 production which will provide [deleted] target selection improvements and a fuel change which will give us about a 10 to 12 percent increase in range over the current round.

So, we are evolving this round very slowly to keep up with the threat, Mr. Chairman. In the meantime, the free-flight reliability of this Harpoon round is running between 91 and 100 percent at sea based on actual firings.

Harpoon

	Dollar amounts in millions
Fiscal year 1982 appropriated:	
Quantity	240
Amount	$233.0
Fiscal year 1983 budget request:	
Quantity	231
Amount	$236.1
Fiscal year 1984 authorization:	
Quantity	340
Amount	$339.0

To provide adequate numbers of this highly reliable and effective weapon to the fleet, the Navy requests $236.1 million this year for 231 missiles, and authorization for $339 million to support 340 missiles in the fiscal year 1984 buy.

The 1983 procurement unit cost is $1.15 million, Mr. Chairman, and the overall program unit cost is $1.03 million.

I would like to cover one air-to-surface, air-to-ground missile, Harm.

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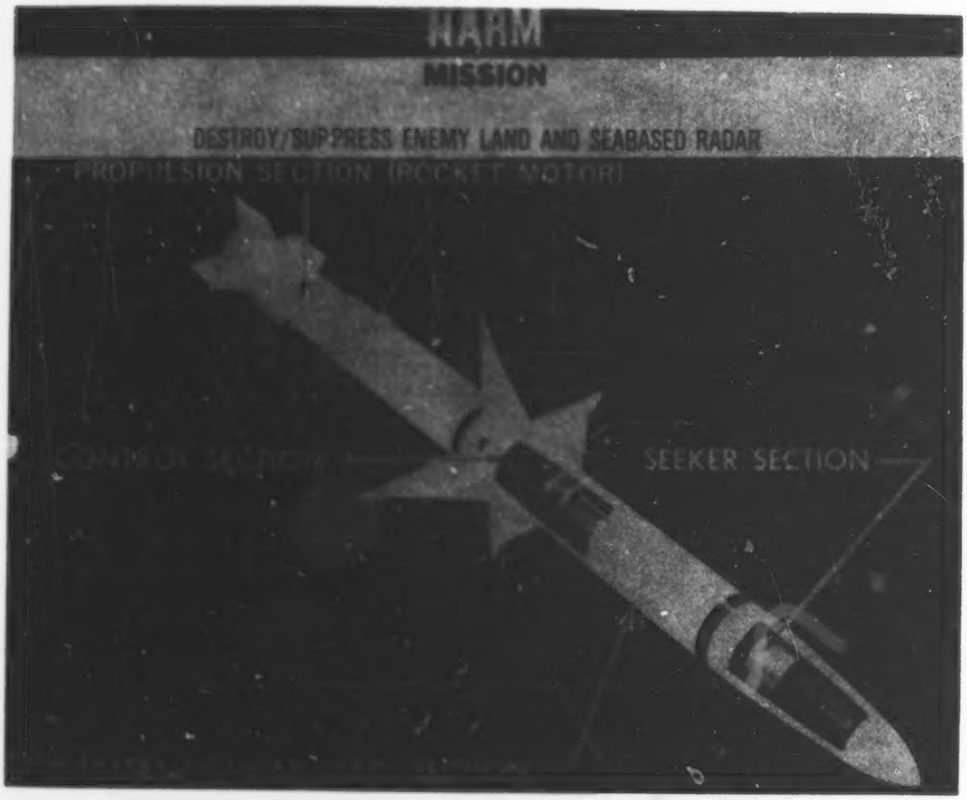
HARM
MISSION
DESTROY/SUPPRESS ENEMY LAND AND SEABASED RADAR
PROPULSION SECTION (ROCKET MOTOR)
CONTROL SECTION
SEEKER SECTION

Harm is a high-speed, antiradiation missile designed to destroy or suppress land- or sea-based radars. Homing on and destroying the radars associated with enemy surface-to-air missiles and radar directed antiaircraft guns is important. Current inventory of Shrike and Standard Arm were used extensively in the Southeast Asian [deleted] wars and proved their utility in both conflicts. The diversity of Soviet air defense systems today severely limits the operational effectiveness of both those older missiles. Harm will be deployed on A-7's, F/A-18's as well as A-6's and U.S. Air Force F-4 aircraft and will correct the operational deficiencies of the previous antiradiation missiles.

Harm

	Dollar amounts in millions
Fiscal year 1982 appropriated:	
Quantity	118
Amount	$107.8
Fiscal year 1983 budget request:	
Quantity	208
Amount	$176.8
Fiscal year 1984 authorization:	
Quantity	250
Amount	$155.3

In fiscal year 1983 we request authorization for 208 missiles for $176.8 million. Authorization for 250 missiles at $155.3 million is requested for fiscal year 1984. This includes $40 million for funding of the Navy's half share of the $80 million required this year to complete development of the second source for the Harm missile.

The Air Force has included that $40 million share in their budget request as well.

The 1983 production unit cost for this round is $892,000 at the present time, and the overall program unit cost to complete is $261,000.

I would like to move into the antiair warfare area.

Our primary goal is to establish and maintain airspace superiority over the seaspace. In order to do this, we must reduce weapon inventory shortages of all weapons, extend the battle space, improve firepower and reaction time in our task groups and while all tactical missiles, and each one of them, are important, I would like to dwell briefly on just a few of them.

First the Standard missiles followed by Phoenix, Sparrow, and Sidewinder.

Mr. **BENNETT**. I think most of this is under the procurement subcommittee and the House is going to meet at 3. You might leave out the things that don't come within our committee. I am afraid we are going to have to split.

Admiral **HOSTETTLER**. I will go into torpedoes then, sir.

The final warfare area that I would like to cover is antisubmarine warfare.

There are three signficant weapon categories that I would like to cover, both the Mark 48 torpedo, the Mark 46 torpedo and the Captor mine. We will be prepared to discuss the medium-depth mine program at that time, sir, if you desire.

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MK 48 TORPEDO

MISSION

PROVIDE A SUBMARINE LAUNCHED HIGH SPEED ACOUSTIC TORPEDO WHICH IS EFFECTIVE AGAINST FAST DEEP DIVING, HIGH PERFORMANCE SUBMARINES AND SURFACE SHIPS OF ALL TYPES

The Mark 48 torpedo, which has been in production since 1972, is a submarine-launched acoustically guided, dual-purpose antisubmarine and antisurface ship weapon. This torpedo is the primary tactical weapon for the attack submarine and is carried by strategic-missile submarines as a self-defense weapon. Approximately [deleted] Mark 48's have been delivered to the fleet and about [deleted] more are in various stages of production at the present time.

MK 48 torpedo

	Dollar amounts in millions
Fiscal year 1982 appropriated:	
Quantity	144
Amount	$116.3
Fiscal year 1983 budget request:	
Quantity	120
Amount	$124.3
Fiscal year 1984 authorization:	
Quantity	144
Amount	$132.6

The fiscal year 1983 request is for $124.3 million for the procurement of 120 torpedoes. Authorization in fiscal year 1984 is requested for 144 torpedoes at $132.6 million.

Mr. HARTNETT. $1 million apiece?

Admiral HOSTETTLER. The procurement unit cost—this is not the hardware cost—that plus all of the support required to deliver and accept that torpedo is $1.04 million per round.

Mr. HARTNETT. What would it be for the Stingray?

Admiral **Hostettler**. I am not sure I have a cost on the Stingray. I asked that question of our friends and they didn't have it.

Mr. **Hartnett**. Nobody has ever told you what the unit cost would be for a Stingray torpedo?

Admiral **Hostettler**. No, sir.

Mr. **Bennett**. We might ask you to put it in the record.

Admiral **Hostettler**. I will give you the best answer I can, sir.

[The following information was received for the record:]

Stingray Torpedo

The Navy's best estimate on the unit cost of a Stingray torpedo is 200 pounds sterling or $440,000. This estimate is calculated on the fiscal year 1981 value of the dollar, a production rate of 30 per month, the planned Royal Navy program and informal information received from the Royal Navy and Marconi, the prime contractor. There has been no formal pricing provided.

Mr. **Hartnett**. It is probably classified but could you give me the speed at which the Mark 48 and the 46 torpedo can travel, the top speed?

Admiral **Hostettler**. Yes, sir; I have it. Depending on mode and range, [deleted] is the top speed of that weapon.

Mr. **Hartnett**. The 46 or the 48?

Admiral **Hostettler**. The Mark 48.

Mr. **Hartnett**. Are we not still using some old World War II torpedoes that are traveling at lower speeds?

Admiral **Hostettler**. We are phasing out the MK-37's. We still have a few left. They are rapidly being replaced with the 48.

Mr. **Hartnett**. They travel at slower speed than the Alpha submarine?

Admiral **Hostettler**. Yes, sir. Basically the MK-37's were made for firing against snorkeling diesel boats. Those aren't World War II, by the way.

Mr. **Bennett**. There are not many cases where you send a torpedo after a submarine. I presume they are mostly at an angle, so you really don't always have to outrun the submarine?

Admiral **Hostettler**. Yes, sir. Many times if you are in trail.

Captain **Allen**. As soon as a target is alerted to the presence of an attacking torpedo, we can anticipate that he will take action to evade it. The first action normally would be speed; therefore, even if you did launch the torpedo on a course closing to some extent on the target, the target may not remain in such a mode of operation and your torpedo must have the capability to catch him. [Deleted] knot speed is important for a submarine torpedo. The Mark 48 has it.

Mr. **Bennett**. I understand.

Mr. **Hartnett**. One more question, Admiral. You know this committee went to all the trouble of flying me over to England on one of those fact-finding trips that used to be called junkets before I got elected to Congress. We went to the Marconi Plant. We examined the Stingray and we talked with them about it. They tried to convince the Navy—and I am certain someone in the Navy or Defense Department has all the information on the Stingray—they were trying to convince the Navy, first, that this torpedo is an interim measure until we get our heavyweight torpedo or whatever it is on the line; is that not true?

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Captain **Allen**. I would like to say one thing about it. The Stingray is a lightweight torpedo; therefore, it is intended for deployment principally from aircraft; it is not a submarine-launched weapon; therefore it does not represent, regardless of its specific tactical characteristics, a substitute or replacement for any of our heavyweight submarine-launched weapons which must approach a target from a distance, as opposed to the lightweight which is dropped as close as possible to the present location of the target.

I won't try to address the characteristics of the Stingray itself, but it is not a submarine torpedo.

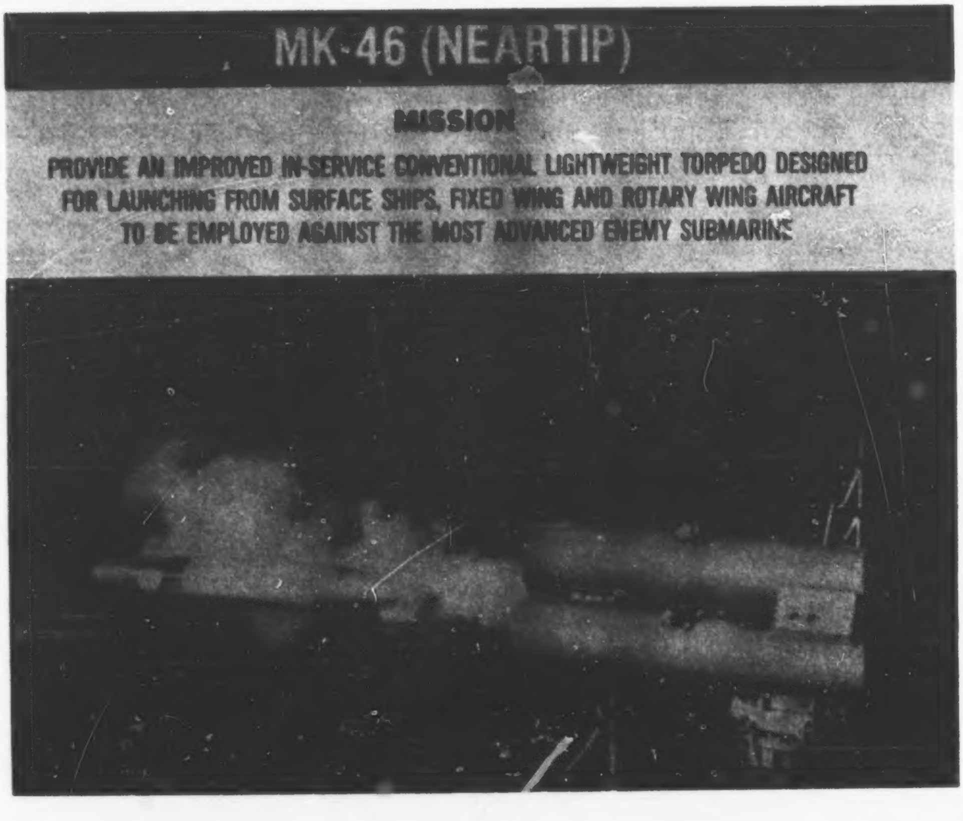
Admiral **Miller**. If I might comment on that, Stingray is considered a competitor to the Navy's advanced lightweight torpedo, which is, as the Captain described, an aerial drop and a short range surface ship antisubmarine torpedo.

Mr. **Bennett**. That is the next one coming up?

Admiral **Miller**. Yes; it is not a competitor to this particular model.

Mr. **Bennett**. I think we had better go ahead, because I am afraid we will run out of time.

Go ahead and we won't ask you any more questions until you get through.



MK-46 (NEARTIP)

MISSION

PROVIDE AN IMPROVED IN-SERVICE CONVENTIONAL LIGHTWEIGHT TORPEDO DESIGNED FOR LAUNCHING FROM SURFACE SHIPS, FIXED WING AND ROTARY WING AIRCRAFT TO BE EMPLOYED AGAINST THE MOST ADVANCED ENEMY SUBMARINES

Admiral **Hostettler**. The next is the Mark 46 torpedo which is similar in size to the Stingray. The Mark 46 Mod 5 is an improved version of the earlier generation of the Mark 46 torpedo. It features an acoustic system and countermeasure-resistant capability that significantly increases performance of this in-service conventional lightweight designed for launch from surface vessels, fixed-wing and rotary-wing aircraft.

Funding is requested for fiscal year 1983 for procurement of 440 of these torpedoes, at $141.2 million. Fiscal year 1984 authorization request is for 1,200 Mark 46 torpedoes at $225.3 million.

MK 46 Torpedo

	Dollar amounts in millions
Fiscal year 1982 appropriated:	
Quantity	253
Amount	$57.8
Fiscal year 1983 budget request:	
Quantity	440
Amount	$105.7
Fiscal year 1984 authorization;	
Quantity	1,200
Amount	$224.8

At the same time we are buying the total torpedo, we are requesting modification kits to bring our older Mark 46, Mods 1 and 2, up to this new configuration, Mod 5. In fiscal year 1983 we are requesting 182 kits for that program. In addition, we are also setting up certain numbers of the older mods to modify those for the Captor mine. We are asking for 500 kits to modify the torpedo so they can be reassembled as the Captor mine.

I might add, in this program we are about to go into a 3-year, multiyear procurement on this torpedo. There is, in fact, in this dollar value $35.5 million as start-up cost for that 3-year multiyear procurement.

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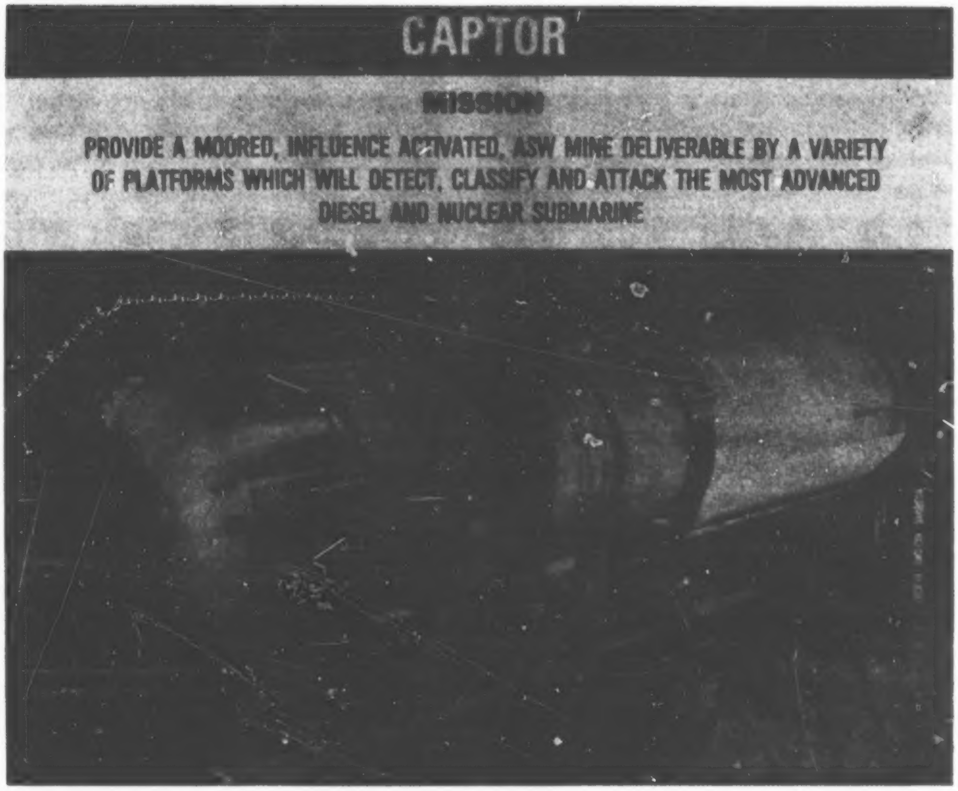

CAPTOR

MISSION

PROVIDE A MOORED, INFLUENCE ACTIVATED, ASW MINE DELIVERABLE BY A VARIETY OF PLATFORMS WHICH WILL DETECT, CLASSIFY AND ATTACK THE MOST ADVANCED DIESEL AND NUCLEAR SUBMARINE

Captor is an encapsulated torpedo; it is a moored deep-water influence-activated antisubmarine warfare mine which launches a modified Mark 46 torpedo called the Mod 5.

The technical and operational evaluation for Captor was completed in February 1975. Provisional approval for service use was granted in January 1976. Production at the rate of 10 units per month commenced soon thereafter. Hardware reliability was emphasized and specifications for high reliability parts and additional quality assurance provisions were included in this production program. Follow-on test and evaluation was conducted from January 1978, through October 1980.

The most recent series of tests have demonstrated a successful modification to improve utility in weapon performance under most operational conditions. Approval for service use was granted in February 1980.

The fiscal year 1983 budget request is for $151.4 million to support a buy of 500 Captors. Authorization for 600 Captors at $183.3 million is requested for fiscal year 1984.

MK 60 Captor

	Dollar amounts in millions
Fiscal year 1982 appropriated:	
Quantity	**400**
Amount	**$116.7**
Fiscal year 1983 budget request:	
Quantity	**500**
Amount	**$151.4**

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MK 60 Captor—Continued

	Dollar amounts in millions
Fiscal year 1984 authorization:	
Quantity	600
Amount	$183.3

The present buyout is planned for fiscal year [deleted].

The submarine-launched mobile mine is a modification to the Mark 37 torpedo that provides the submarine with a standoff mining capability. Also $22.9 million is requested in fiscal year 1983 to modify 279 Mark 37 torpedoes, large torpedoes, to a tactical mine configuration.

SUBMARINE LAUNCHED MOBILE MINE
MK 67

MISSION – PROVIDES COVERT STANDOFF MINING CAPABILITY

A fiscal year 1984 authorization is requested for $27.1 million to continue this modification program. The current program unit cost is $821,000 for this particular mine.

Mobile mine MK 67

	Dollar amounts in millions
Fiscal year 1982 appropriated:	
Quantity	
Amount	$111
Fiscal year 1983 budget request:	
Quantity	279
Amount	$22.9
Fiscal year 1984 authorization:	
Quantity	301
Amount	27.1

In addition to those ASW weapons, Mr. Chairman, I could talk to two other mobile targets that we use to simulate firing, but in the interest of time I would like to conclude, if I may.

I would like to state a word about economy.

It is my view that competition has always been a primary incentive for a better product, particularly in a weapon system. We are making every effort to find ways to enhance competition as we buy these rounds.

Examples of programs where competition has been exploited are many: Sidewinder, Sparrow, many of the air-to-air missiles including Harpoon, and several second sources for all of our major parts and you have just seen a multiyear procurement that came also in an economy move.

This completes my statement for the fiscal year 1983 budget request, Mr. Chairman. I appreciate the continued interest of Congress in supporting our needs in this most important area.

Thank you very much. I stand ready for any questions you might have.

WRITTEN STATEMENT OF REAR ADM. STEPHEN J. HOSTETTLER

Mr. Chairman and members of the subcommittee, I am Rear Admiral Stephen J. Hostettler, Director, Surface Combatant Systems Division, Office of the Chief of Naval Operations. It is my privilege to present the munitions requirements for the U.S. Navy contained in the Weapons Procurement, Navy, Appropriation fiscal year 1983 Budget Request and those items which require authorization in fiscal year 1984.

It is important to recall that the mission of the Navy, as set forth in Title 10, United States Code, is to be prepared to conduct prompt and sustained combat operations at sea in support of national interests; in effect it demands maritime superiority for the United States and its allies. Specificially, the Navy must be prepared to seek out and destroy enemy naval forces and to suppress enemy sea commmerce, gain and maintain general naval supremacy, control sea area and protect vital sea lines of communication, establish and maintain superiority in any area of naval operations, seize and defend advanced naval bases, and conduct such land and air operations as may be essential to the prosecution of a naval campaign. These missions can only be "prompt and sustained" when the variety and quantity of required weapons are on hand when called upon to fight.

The inventory objectives which determine procurement requirements for all weapons are continuously reviewed. Their determination is sensitive to estimated enemy order of battle and defense capabilities; the anticipated scenario; our own demonstrated weapon system capabilities; logistic requirements including weapon distribution to fighting units; and battle attrition on both sides. A logical and systematic evaluation of numerous sensitive parameters, determines inventory requirements which establish minimum prudent ammunition levels rather than absolute ultimate requirements upon which to base our war fighting preparedness. Since inventory objectives are sensitive to a number of variable factors, inventory objectives may change and requirements for procurement may vary annually. More specifically the Navy's non-nuclear ordnance inventory objectives are computed by a mathematical model.

The munitions contained within the Weapons Procurement, Navy are classified as Threat Oriented Weapons. These are munitions used to neutralize the enemy order-of-battle that he cannot regenerate rapidly (Submarines, surface combatants, aircraft). The changing nature of armaments dictates that we determine our own ordnance requirements partially on the engaging enemy weapons—specifically those cruise missiles which are targeted at our own forces. These items include air-to-air missiles, surface and sub-surface launched missiles, torpedoes and antisubmarine mines. The requirements are based on the number and types of targets, weapon system effectiveness against a target class, variations among friendly platforms, false target expenditures, attrition of friendly forces and availability and method of ordnance replenishment. Requirements are based on targets and are not time phased.

The procurement requirements contained in this year's request reflect an effort toward achieving the inventory requirements in balance with overall fiscal realities.

The Weapons Procurement, Navy appropriation is composed of four budget activities. Activity One includes procurement of ballistic missiles, and navigation satellite system requirements. Activity Two includes other missiles such as air, surface and subsurface launched missiles, communication satellites and aerial targets. Activity

Three includes torpedoes, mines, and subsurface training targets. Activity Four includes naval guns and associated support equipment. Also provided for, within each appropriate budget activity, is modification to in-service weapons; initial and replenishment spares and repair parts; and industrial facilities and tools unique to the production and maintenance of the missiles and other ordnance items procured within the appropriation.

The prominent features of the fiscal year 1983 Weapons Procurement, Navy Budget Requests are:

STRATEGIC WEAPONS

The continued production of the Trident I ballistic missile.

SURFACE-TO-SURFACE MISSILES

Continued production of the Tomahawk cruise missile.

Continued production of the Harpoon anti-ship cruise missile.

AIR-TO-AIR MISSILES

Continued production of Sparrow, Sidewinder and Phoenix air-to-air tactical missiles.

SHIP-LAUNCHED MISSILES

Continued production of the Standard SM-1 and SM-2 Medium Range Missiles and the improved Standard SM-2 Extended Range Missile.

Continued production of the NATO Seasparrow Missile.

Continued procurement of satellites for communication.

AIR-TO-GROUND MUNITIONS

Initial procurement of the Laser Maverick Missile.

Continued production of the Harm Anti-Radiation Missile.

ASW MUNITIONS

Continued production of the MK-48 Torpedo.

Continued production of the MK-46 Neartip Torpedo.

Continued production of the Captor MK-60 ASW Mine.

SHIP DEFENSE

Continued production of the Phalanx Close-In Weapon System.

Initial production of the MK-75/76MM gun for the U.S. Coast Guard *Hamilton* Class Cutter.

The fiscal year 1983 total request of about $3.901 billion is an increase of about 20 percent over the approximately $3.215 billion appropriated for fiscal year 1982. With your permission, Mr. Chairman, I would like to address each of these programs in some detail, in order of budget activity.

BUDGET ACTIVITY I—BALLISTIC MISSILES

Budget Activity I provides for the procurement of fleet ballistic missiles, ancillary checkout and support equipment, and the modification and improvement of facilities required to support the delivery of these missiles to the sea-based strategic deterrent forces. Of the $776.5 million requested in fiscal year 1983, $752.5 million is for ballistic missiles; $7.5 million is for missile modification; and $16.5 million is for support equipment, spare parts, industrial facilities and astronautics.

POSEIDON

Poseidon missiles are no longer being procured; however, funding is requested to support missile tests which will continue throughout the operational lives of the weapons. This is necessary in order to continue to evaluate the readiness of deployed missiles in accordance with Joint Chiefs of Staff test criteria. The fiscal year 1983 budget includes funds for special purpose flight test instrumentation components and Department of Defense components delivered to the Department of Energy for Poseidon warhead assembly. $9.7 million is requested for Poseidon for fiscal year 1983. For fiscal year 1984, authorization is requested for $8.8 million.

TRIDENT

The Trident program provides an undersea strategic missile system that insures this country continues to maintain a credible, survivable deterrent which is independent of foreseeable threats throughout the decade and beyond. The portion of the strategic ballistic missile force at sea is the least vulnerable element of our nation's strategic forces. To insure their continued survivability and effectiveness we must expand the SSBN's weapon capabilities beyong those of the current Poseidon. We are, therefore, requesting continued production of the Trident I missile which will be deployed in the Trident submarine, as well as backfitted into twelve of the existing Poseidon fleet ballistic missile submarines.

The total fiscal year 1983 request for Trident I missile procurement is $742.8 million. $669.5 million of this total is requested for 72 missiles for the combined Trident and Trident backfit program. The remaining $43.3 million is requested for the advance procurement of various components of the Trident missile in support of future procurements. For fiscal year 1984, a total authorization of $785.8 million is requested for procurement of 72 Trident I missiles ($752.0 million) and for advance procurement for follow-on missile buys ($33.8 million).

MODIFICATION OF MISSILES

Missile modifications are determined only after thorough investigation has established the need for a change in system or equipment configuration, the total estimated cost and the impact of a proposed change has been defined and the proposal severely screened to determine a positive advantage to the system. Poseidon modifications are funded only when correction of a known deficiency is required, a component is no longer procurable in its orginal configuration or it is necessary to accept a substitute part of an existing subassembly. The fiscal year 1983 request for modifications of Poseidon missiles is $7.5 million. For fiscal year 1984, authorization is requested for $10.1 million for the Poseidon missile modifications.

SUPPORT EQUIPMENT AND FACILITIES

The support funds requested in Budget Activity I are for initial and replenishment spares and repair parts, maintenance of missile industrial facilities and astronautics. The fiscal year 1983 request for support equipment and facilities is $16.5 million. For fiscal year 1984, authorization is requested for $16.1 million for support equipment and facilities.

BUDGET ACTIVITY II—OTHER MISSILES

Budget Activity II provides for the procurement, modification and support of air-to-air, air-to-surface, surface-to-surface and surface-to-air missiles for inventory, combat, training; and the procurement of aerial targets and Fleet Communication satellites. The Budget Activity II procurement plan for the missiles is designed to establish and maintain an effective mix of weapons in the combat inventory and to provide weapons in support of training. In developing the procurement plan, we consider such factors as production feasibility and delivery schedules for the weapons, and the availability of the ships and aircraft which can employ them. The fiscal year 1983 budget request provides funding of $2.35 billion for the procurement, modification and support of these missiles, and aerial targets and Fleet Communication satellites.

SURFACE-TO-SURFACE—TOMAHAWK

The Tomahawk Cruise Missile is a long range missile with land attack and antiship models, sized to fit submarine torpedo tubes as well as surface ship and aircraft launchers and capable of being deployed from a variety of subsurface and surface platforms. The Tomahawk Cruise Missile is propelled in flight by a small turbofan engine. The antiship version uses a modified Harpoon guidance system and the land attack version has inertial and terrain contour matching guidance system. The antiship version is fitted with a high explosive warhead while the land attack version can be fitted with either the high explosive or a nuclear warhead. The Defense System Acquisition Review Council (DSARC II) was completed for Tomahawk in January 1977, and the Secretary of Defense approved the weapon entering into full scale engineering development for both the land attack and antiship models.

$292.2 million is requested for fiscal year 1983 to fund the procurement of 120 Tomahawk missiles. Authorization of $600.0 million for 312 missiles is requested for fiscal year 1984.

HARPOON

The Harpoon Cruise Missile was designed to provide a ship, air and submarine launched all weather anti-ship cruise missile effective against enemy surface combatants and merchant shipping. The radar guided Harpoon was first operational in the fleet in July 1977, installed in both surface combatants and submarines. An alternate version has been adapted for launch from aircraft and achieved initial operating capability in 1979. The missile was granted full Approval for Service Use in February 1981. The most recent air platform, the A-6E, has been recommended for ASU.

Harpoon continues to be one of the Navy's highest performance weapons. Free Flight missile reliability for all production missile firings is between 91 percent and 100 percent for the last 20 firings. To provide adequate numbers of this highly reliable and effective weapon to the fleet, the Navy requests $236.1M for 231 missiles in fiscal year 1983 and authorization $339.0M for 340 missiles in fiscal year 1984.

AIR-TO-AIR MISSILES

The Navy's air-to-air weapon inventory includes three missiles: the 200 pound sidewinder, a short range weapon using a passive infrared seeker; the medium range 500 pound Sparrow, guided by a semiactive radar seeker; and the 980-pound Phoenix, a long-range missile using a combined semi-active and active radar seeker. The Sidewinder and Sparrow missiles enjoy joint Navy and Air Force production with Marine Corps requirements incorporated within the Navy's portion. The current capabilities of Sidewinder, Sparrow and Phoenix are significant and satisfy the designed requirements. Increased capability to counter the projected threat is incorporated in ongoing product improvement programs.

SPARROW

The AIM/RIM-7M Sparrow III is a semi-active medium range intercept missile and will employed by Navy F-4, F-14 and F/A-18 fighter aircraft and 95 surface ships having the NATO Sea Sparrow system.

The entire fiscal year 1983 request is for the 7M monopulse variant of the Sparrow missile and will include the third production of the RIM-7M missile for sea-launched application in surface ships. The AIM-7M and RIM-7M missiles are nearly identical except for the folding wings, clipped fins and remote arming capability of the RIM-7M surface-to-air missile. The AIM-7M will be compatible with all aircraft currently approved to carry the AIM-7F air-to-air missile, and the RIM-7M will be employed with the NATO Seasparrow Surface Missile system.

The 7M variant of the Sparrow missile incorporates a new low altitude capable active fuze, and a new target seeker featuring improved missile guidance performance in electronic countermeasures and clutter environments. Performance limitations in these areas were inherent in the AIM-7F conical scan seeker design. The 7M derives its enhanced guidance through use of monopulse radar, but uses the same airframe, warhead, and rocket motor as its predecessor, the AIM-7F. We expect the 7M to be fully operational in the face of known self-screening electronic countermeasures, and provide improved capability in other ECM environments.

We are requesting $132.8 million for 285 AIM-7M and 385 RIM-7M missiles in fiscal year 1983. For fiscal year 1984, authorization is requested for 1220 missiles at $193 million.

SIDEWINDER

The Sidewinder AIM-9M is the latest version in the series of infrared seeking short range air-to-air missiles and will be used on Navy and Marine Corps fighters and some light attack aircraft.

We are requesting $41.5 million for 500 AIM-9M missiles in fiscal year 1983 and authorization for 450 missiles at $33.3 million in fiscal year 1983.

PHOENIX

The AIM-54 Phoenix, an all-weather missile, employs semi-active, mid-course and active guidance and is designed specifically for the F-14 aircraft. The Phoenix system utilized for the F-14 aircraft has unique capabilities unmatched by any other air-to-air system. It has successfully demonstrated a capability against high altitude and high speed targets, and a high degree of effectiveness during multiple and long range engagements.

A development program to update selected units of the Phoenix missile commenced in fiscal year 1977. This new missile, designated AIM-54C, incorporates state-of-the-art technology and provides increased missile performance, reliability and readiness. The first low-rate production of 60 AIM-54C missiles commenced in fiscal year 1980.

For fiscal year 1983, the Navy is requesting $256.3 million for 108 AIM-54C Phoenix missiles of which $34.2 million is for advance procurement of long lead items required to support the fiscal year 1984 buy. For fiscal year 1984 we are requesting authorization for 360 missiles at $268.8 million, which includes $45.8 million for advance procurement.

AIR-TO-SURFACE MISSILES—LASER MAVERICK

Laser Maverick is an air-to-surface short range semi-active laser guided missile with a penetrating blast/fragmentation warhead. Laser Maverick is a variant of the Air Force's TV guided missile modified to incorporate a semi-active laser seeker, a general purpose blast/penetration warhead and an out-of-line safe and arming device, and a reduced smoke rocket motor. The missile is currently planned for Marine Corps use only, but will be employed with a single rail launcher adaptable to both Navy and Marine Corps tactical aircraft.

Laser Maverick will be used in close air support/battlefield interdiction mission to attack enemy installations, equipments and supplies within the Amphibious Objective Area (AOA) and in deep support for the destruction of targets outside the AOA. In anti-air warfare, Laser Maverick will be used to attack hostile aircraft on the ground, missile sites and to neutralize radar installations and air support areas. This weapon with its cockpit selectable fuze and penetrating blast-fragmentation warhead offers a highly versatile capability against a wide spectrum of targets.

$33.1 million is requested in fiscal year 1983 for the initial procurement of 90 missiles. The fiscal year 1984 authorization request for 350 missiles at $49.2 million.

HARM

Harm is a high speed, antiradiation missile designed to destroy or suppress land or sea-based radars supporting enemy air defense systems. Harm performs this function by homing on and destroying the radars associated with enemy surface-to-air missiles and radar directed anti-aircraft guns. The current inventory of the anti-radiation missiles, Shrike and Standard Arm, were used extensively in the Southeast Asia and Mideast wars and proved their utility in both conflicts. However, the diversity of Soviet air defense systems today severely limits the operational effectiveness of both Shrike and Standard Arm. Harm will be deployed on the A-7E, F/A-18 and A-6E aircraft and will correct the operational deficiencies prevalent in Shrike through increased velocity, greater range, a low smoke motor, improved sensitivity, flexible logic for in flight retargeting and most importantly will have the frequency band coverage needed to counter the threat.

Harm provides the major ingredient in the Navy's lethal defense suppression capability which will permit the conduct of tactical air missions effectively with acceptable loss rates. In fiscal year 1983 authorization for 208 missiles at $176.8 million is requested. Authorization for 250 missiles at $155.3 million is requested for fiscal year 1984. This includes $40.0 million for funding of the Navy half of $80 million required in fiscal year 1983 to complete development of a second source for Harm. Air Force has included $40 million in their fiscal year 1983 budget for this purpose.

SURFACE-TO-AIR MISSILES—STANDARD MISSILES

The Standard Missile is the mainstay of the U.S. and allied Navy's surface to air weapons. Three principal versions: Standard (SM-1) Medium Range (MR) Missile; the Standard (SM-2) Medium Range (MR) Missile; and the Extended Range (ER) Missiles. Standard Missile is an evolutionary weapon.

The Standard (SM-1) Medium Range (MR) Missile, is installed in guided missile cruisers, destroyers, and frigates; a total of 58 ships. Additionally, it is employed by 7 allies in 24 ships. It is a supersonic, medium range missile (range of 25 miles) which incorporates the monopulse guidance of the advanced SM-2 missile as well as advanced solid state electronics and engineering concepts. The extended range variant (40 miles) has not been in production since 1974 but remains the primary weapons in our GC and DDG-37 class ships.

The Standard SM-2 Extended Range Missile, [SM-2 (ER)] at 90 miles range more than doubles the range and firepower of the SM-1 (ER) version, by use of mid-course guidance, inertial reference systems, and ECCM improvements. The SM-2 improved kinematic capability enables USN to enlarge the battle space above and beyond the carrier battle group enhancing survivability in high threat areas. It is planned for installation in 31 cruisers and destroyers presently equipped with Terrier missile system with SM-1 ER capability.

The Standard (SM-2) Medium Range (MR) missile provides significant performance improvements including doubling the range of the SM-1 (MR) version through incorporation of mid-course guidance capability and electronic counter countermeasures (ECCM) improvements. The initial version, Block I, has an intercept range of 40 miles. The SM-2 (MR) Missile will be fired from all Aegis cruisers and 10 Tartar guided missile cruisers.

The Standard (SM-1) Medium Range (MR) Missile will have the same guidance, ECCM and inertia reference system improvements as that of the Extended Range Missile. In fact commonality is essentially complete except for propulsion motors.

The fiscal year 1983 request for Standard MR, SM-1, is $192.3 million for 650 missiles. An additional $60.3 million is requested to fund advanced procurement items under a multiyear contract. For Standard MR, SM-2, we are requesting $122.8 million for 150 missiles including 30 Block II pilot line missiles; and for Standard ER, SM-2, $302.8 million for 375 missiles. This is the first full production year for this missile. In fiscal year 1984, we are requesting authorization to procure 700 Standard MR missiles, SM-1, at $216.4 million, 300 Standard MR missiles, SM-2 at $203.7 million, and 450 Standard ER missiles, SM-2 at $347.3 million. All SM-2 in fiscal year 1984 will be Block II Missiles.

OTHER MISSILE SUPPORT

The "Other Missile" fleet support item funds material for missiles already in fleet inventory—Terrier, Tartar, and the submarine-launched Subroc anti-submarine rocket. Material procured by these funds includes stands, containers, consumable test and training material, and replacement equipment for the service life extension of the Subroc Missile. For fiscal year 1983, $5.3 million is requested. Authorization to expend $5.8 million is requested for fiscal year 1984.

AERIAL TARGETS

The aerial target program provides training assets to establish and maintain the combat readiness required by Navy personnel in the use of air-to-air and surface-to-air missile and guns systems and for testing new weapons. These targets replicate a wide variety and range of threat missiles and aircraft. The demand for more capable aerial targets which will simulate a realistic aerial threat, combined with inflationary factors have increased the cost of individual targets beyond that of older and less complex ones. Even so, aerial targets remain vitally important to training and fleet readiness. The fiscal year 1983 budget requests $76.6 million for these targets. The fiscal year 1984 request is for $96.2 million.

MISSILE MODIFICATIONS

Missile modifications are required to improve and update the performance and operational characteristics of missiles. There is one missile modification program that I would like to emphasize. It is concerned with the Sidewinder air-to-air missile. The modification program is for a block improvement to upgrade the earlier variant AIM-9H. This involves replacing the active optical target detector, the guidance and control section and the fuze and war head section. The result is that the AIM-9H becomes an AIM-9M. These improvements are simple, cost effective and provide the operational commander the flexibility and versatility required to defeat the enemy. The fiscal year 1983 budget request for "Other Missile" modifications is $74.2 million. The fiscal year 1984 authorization request is for $107.7 million.

We are requesting $231.3 million in fiscal year 1983 for the procurement of two satellites and authorization of $123.0 million for one satellite in fiscal year 1984.

SUPPORT EQUIPMENT

Support equipment and facilities include initial and replenishment spare parts and the improvement of weapon industrial facilities. The fiscal year 1983 request for support equipment and facilities is $118 million. For fiscal year 1984, authorization for $115.1 million is requested for the Support Equipment line.

BUDGET ACTIVITY III—TORPEDOES AND RELATED EQUIPMENT

Budget Activity III provides funds for procurement of the submarine launched MK 48 torpedo, procurement of the MK-46 Neartip torpedo, and the MK-60 moored encapsulated torpedo antisubmarine mine (Captor); and subsurface mobile targets, torpedo modifications, and support equipment (including related spare and repair parts). For the overall Budget Activity III, $604.9 million is requested for fiscal year 1983.

MK 48 TORPEDO

The MK 48 Torpedo, which has been in production since 1972, is a submarine launched, acoustically guided dual-purpose antisubmarine and anti-surface ship weapon. This torpedo is the primary tactical weapon for our attack submarines and is carried by strategic missile submarines as a self-defense weapon. Approximately 2,700 MR-48's have been delivered to the Fleet and about 300 more are in various stages of production and proofing. The fiscal year 1983 request is for $124.3 million for the procurement of 120 torpedoes. Authorization in fiscal year 1984 for 144 torpedoes at $132.6 million is requested.

MK 46 TORPEDO

The Torpedo MK 46 Mod 5 Near Term Improvement Program (Neartip) is an improved version of the earlier generation. It features an acoustic system and countermeasures resistance capability that significantly increases the performance of this in-service conventional lightweight torpedo designed for launch from surface vessels, fixed wing, and rotary wing aircraft.

Funding is requested for fiscal year 1983 for the procurement of 440 MK 46 Neartip torpedoes at $141.2 million. The fiscal year 1984 authorization requested is for 1200 MK 46 Neartip torpedoes at $255.3 million.

TORPEDO MODIFICATIONS

The following are four primary directions of torpedo modification program:

1. Production of Near Term Improvement program (Neartip) modification kits for existing MK-46 torpedoes MOD 1 and 2.
2. Production of captor modification kits enabling the deployment of the MK-46 torpedo as the Captor pay load.
3. Support procurement of essential MK-48 torpedo modifications necessary to maintain the material reliability of the MK-48 torpedo inventory while providing an interim capability against the Soviet high speed deep diving submarine.
4. Initiation in fiscal year 1984 of limited procurement of the MK-48 Advanced Capability modification (ADCAP) to counter the projected Soviet threat.

$66.4 million is requested in fiscal year 1983 and $137.4 million is requested for authorization in fiscal year 1984.

CAPTOR

The Encapsulated Torpedo (Captor) is a moored, deepwater, influence activated anti-submarine warfare mine which launches a modified MK-46 torpedo when a submarine is detected by the mine. The Technical and Operational Evaluation (Tech/Opeval) for Captor was completed in February 1975. Provisional Approval for Service Use was granted in January 1976. Production, with a rate of 10 units per month, commenced soon thereafter. Hardware reliability was emphasized and specifications for high reliability parts and additional quality assurance provision were included in the production program.

Follow-on Test and Evaluation (FOT&E) was conducted from January 1978 through October 1980. These most recent series of tests have demonstrated a successful modification to improve utility and weapon performance under some operational conditions. Approval for Service Use was granted in Februay 1980. The fiscal year 1983 budget request is for $151.4 million for 500 Captors. Authorization for 600 Captors at $183.3 million is requested for fiscal year 1984.

MK 30 MOBILE TARGET

The MK 30 Mobile Target provides submarine simulation for the support of comprehensive ASW exercises for aircraft, submarines and surface ships. The MK 30 Mobile Target is a versatile and recoverable target is used to provide antisubmarine warfare training and evaluation operations on instrumented three-dimensional underwater acoustic ranges. The major performance characteristics of the MK 30 Target are: simulation of dynamic maneuvers of modern submarines; response to active sonar and torpedo interrogations; generation of submarine-like radiated noise and magnetic anomaly; and the ability to be controlled by preprogrammed or acoustically transmitted instructions.

In fiscal year 1983 we are requesting $19.4 million for the production of five targets, continuation of fleet support and for acceptance of production targets. For fiscal year 1984 we are requesting authorization for seven targets at $19.2 million.

MK 38 MINIMOBILE TARGET

The MK 38 Miniature Mobile Target (MMT) is a small, expendable hand-launched acoustic device developed as an open ocean ASW basic training target for surface ship hull mounted and towed array sonars, and the MK 46 Torpedo. It is small, easy to use and relatively inexpensive. The total request for MK 38 Mini-Mobile Target support in fiscal year 1983 is $2.3 million for 1200 units. In fiscal year 1984 we are requesting authorization for the procurement of 1,200 target at $2.3 million.

ANTISUBMARINE ROCKET

The antisubmarine rocket (ASROC) is designed to carry either a MK-46 Torpedo or nuclear depth charge payload. This system is used against submarines by frigates, destroyers and cruisers. Funds are required to procure replacement components expended during ASROC exercise firings and for production suppoort efforts. Funding of $10.1 million for fiscal year 1983 is requested. Authorization is requested to expend $22.3 million in fiscal year 1984 for ASROC.

SUBMARINE LAUNCHED MOBILE MINE

The Submarine Launched Mobile Mine is a modification to be MK 37 torpedo that provides the submarine with a standoff mining capability. $22.9 million is requested in fiscal year 1983 to modify 279 MK 37 torpedoes to a tactical mine configuration. In fiscal year 1984 authorization is requested for $27.1 million to continue the modification program.

TORPEDO AND ASW RANGE SUPPORT

The torpedo support category provides initial and replenishment spares to support new and existing inventories of underwater ordnance, procures expendable support equipment needed to overhaul and reissue exercise weapons, and provides for the procurement of ASW exercise range equipment. A total of $66.9 million is requested for this purpose in fiscal year 1983. For fiscal year 1984 authorization of $70.6 million is requested.

BUDGET ACTIVITY IV—OTHER WEAPONS

This budget activity provides for the procurement, modification and support of gun mounts. This activity contains such programs as the MK 15 Phalanx Close-In Weapon System and the MK 75 76MM Gun Mount.

Funds for modifications to existing 5"/54, 76 MM, 3"/50 guns, various other fleet machine guns, arms, gun support equipment, and spare and repair parts are also included. For fiscal year 1983, $167.8 million is requested.

PHALANX CLOSE-IN WEAPONS SYSTEM

Fiscal year 1983 represents the sixth year of procurement of the Phalanx Close-In-Weapon System (CIWS). CIWS will be installed on a wide variety of surface ships providing a high confidence, terminal defense system that will allow automatic detection, track, and kill of low-flying anti-ship missiles or aircraft that penetrate fleet area defense.

CIWS has undergone one of the most extensive and rigorous testing programs ever conducted by the Navy. System requirements have been met or exceeded. During the Opeval in 1977 Navy Petty Officers, without external assistance, maintained CIWS for 2 months when reliability greatly exceeded, and maintainability met the requirements. Based on these results, the Chief of Naval Operations granted Approval for Service Use in 1977. Currently 13 ships are at sea, with 28 systems installed. By the end of fiscal year 1982 there will be 13 more ships with 23 more systems installed and 38 additional ships with 64 systems under going installation.

Authorization for 39 systems for $118.7 million in fiscal year 1983 is requested. In fiscal year 1984 $141.6 million for 42 systems is being requested.

MK 75 76MM GUNS

The MK 75 76MM Gun Mount, designed by Oto Melara of Italy, and produced under contract by FMC Northern Ordnance Division, Minneapolis is a minor caliber, dual purpose, high rate of fire gun. Because of its performance, light weight and manning requirements, the MK 75 has been chosen for the Navy's FFG's (Guided Missile Frigate), PHM's (Patrol Combatant) and the Coast Guard's WHEC-378 Class Cutters (Midlife Conversion). The mount has been operationally tested and Provisional Approval for Service Use was granted in September 1975. In fiscal year 1983, $10.7 million is requested for procurement of three mounts for the first Coast Guard *Hamilton* Class Cutters to enter overhaul. Additionally, this procurement will be on a competitive basis between the U.S. and Italian manufacturers. Authorization for $17.4 million for five mounts in fiscal year 1984 is requested to continue the *Hamilton* class overhaul program.

MODIFICATIONS AND SUPPORT EQUIPMENT

A total of $37.2 million is requested in fiscal year 1983 for gun modifications and support equipment. These programs provide for hardware to correct safety deficiencies and to improve operatibility, reliability and maintainability. Included is the load selection modification satisfactorily tested in June 1971 which provides a capability in the 5"/54 MK-45 gun for guided projectiles. Authorization for $49.7 million is requested for ordnance modifications and support equipment in fiscal year 1984.

40MM GUN MOUNT

The MK 19 MOD 3 40MM which received approval for service use in December 1981. Authorization for $.4 million in fiscal year 1983 is suggested. The MOD 3 gun, because of fewer parts will be more reliable and easier to maintain. Authorization for $.9 million is requested in fiscal year 1984.

25MM GUN MOUNTS

The M242, 25MM gun mount replaces the obsolete MK 16 20MM gun which was plagued with maintenance difficulties. Procurement of the M242, 25MM gun will be an add-on to existing U.S. Army contracts with the advantage of already established multi-source ammunition procurement. The request is for $.4 million in fiscal year 1983 and authorization of $.6 million in fiscal year 1984.

9MM HANDGUN

The Navy jointly with the Army, is replacing its .45 and .38 caliber handguns with the DOD standard 9MM handgun. Procurement will extend over a 10-year acquisition plan and will result in a DOD and NATO standard sidearm. The requested authorization is $.4 million in fiscal year 1983 with a planned request for $.4 million in fiscal year 1984.

ECONOMIES AND EFFICIENCIES

Competition has always been the primary incentive for better products at lower cost. The Navy is using all of the proven methods of enhancing competition, such as competitive development, dual sourcing, and component breakout. Examples of programs where competition has been exploited are Sidewinder and Sparrow for competition. Phoenix, Harpoon, Tomahawk, Sparrow and Sidewinder for second source procurement of component parts. This will also provide a solid base for mobilization.

Within the weapons procurement appropriation there are two systems which are candidates for multiyear procurements contained in this budget request. These are the MK-46 MOD 5 Neartip torpedo and Standard Missile One-Medium Range. These programs have been chosen because of stability of requirements and configuration and the degree of confidence Navy has in the contractor's ability and cost.

MEDIUM DEPTH MINE (MDM) PROGRAM

The Intermediate Water Depth Mine (IWDM) Program was cancelled by the Undersecretary of the Navy in December 1980, following a DSARC I review. An Ad Hoc Team was subsequently formed to investigate available program alternatives. The team recommended a two phase plan, wherein (1) a less capable model would be

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constructed, and (2) pre-planned product improvement would be built in for future upgrade of mine effectiveness. The system recommended was the Medium Depth Mine (MDM). The Ad Hoc team reported out in May 1981, and MDM was funded. In October 1981, MDM was terminated in fiscal year 1983 and the out years by a vertical cut, as part of a Congressional reduction in the Navy RDT&E Budget. The MDM Program was, at that point in time, still too expensive and too long in development. In fiscal year 1982, Congress added $15M to the MDM Program. Of this $15M, $7.4M was taken in the fiscal year 1982 outlay reductions. The $7.6M remaining is currently being used to examine possible development alternatives.

It is planned to present the options developed to a CNO Executive Board (CEB) in May 1982. The recommended option, if approved, will be forwarded to SECNAV by 1 June 1982.

There is no question within the Navy as to the requirement for mining in intermediate water depths. The Navy needs this capability, and will support and fund an approved, practical, Medium Depth Mine Program.

Mr. Chairman, that completes my statement of the fiscal year 1983 Budget Request for the Weapons Procurement, Navy, Appropriation. I would be happy to answer any questions you or the members of the subcommittee might have.

Mr. **Bennett**. Mr. Spence?

Mr. **Spence**. Thank you, Mr. Chairman. I want to ask a couple of questions.

The Air Force out in the Pacific, talking about the air-to-air missiles, [deleted]. That concerned me a great deal, obviously.

If the balloon goes up, what do we do; are we in better shape now from the standpoint of our inventories?

[redacted]

Admiral **Hostettler**. We have two missiles, Phoenix and Sparrow, which are probably worth looking at. I think the Air Force, in

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the case of Sparrow, is in the same boat. The Phoenix is ours only but it is the same kind of problem. This is the Phoenix missile. That is the large air-to-air that is used on the F-14 only. You can see the tactical load outline rising up. It is [deleted] today. That is what we would like to have.

SPARROW AND PHOENIX INVENTORY VS. OBJECTIVE

If every carrier airgroup that goes to sea is loaded out, then that is where this line comes from. You can see where our inventory is at the present time. Most of that is because we are upgrading that round. We are just getting through the test, just starting the new production of that C-model round. We don't want a larger inventory growth. We hope to be able to kick that number up here in the next 5 years. You see a steep climb coming up. The same with Sparrow. We use Sparrow both in the air as well as on launchers in our ships. It is a similar missile.

Again, you can see that we do have problems. I have shown you the two key problem areas as far as our missile inventories are concerned relative to our tactical needs.

SIDEWINDER INVENTORY VS. OBJECTIVE

Mr. **Spence**. The Sidewinder is a small one. We don't use many of them?

Admiral HOSTETTLER. Yes, sir, we do. You will find we are in much better shape. You can see momentarily we bring in a new mode, we drop down. You can see that our inventory is quite a bit above our tactical load-out posture and pretty close to our load objective.

Mr. SPENCE. From what we heard today, even the Air Force is in a better shape this year, coming out with a lot of O. & M.?

Admiral HOSTETTLER. I think it is fair to say threat weapons from aircraft have been a problem consistently in terms of numbers. If you are an aviator and you go out to fly, you would like to have [deleted].

Mr. SPENCE. How about cruise missiles, can we shoot them from submarines, submerged?

Admiral HOSTETTLER. Yes, sir.

Mr. SPENCE. Do they use the regular torpedo tubes?

Admiral HOSTETTLER. Yes, sir.

Mr. SPENCE. Do we have many operational now?

Captain ALLEN. I did not understand the question.

Mr. SPENCE. Do we have cruise missiles on submarines operational now?

Captain ALLEN. Only Harpoon. Tomahawk will become operational [deleted].

Mr. SPENCE. The Russians have Oscar. That is the cruise missile submarine. They don't use torpedo tubes do they?

Captain ALLEN. No, Oscar is a special purpose cruise missile submarine with dedicated missile tubes. We don't have submarines built specifically as cruise missile submarines.

Mr. SPENCE. One last question, if I can, Mr. Chairman.

We have gotten some intelligence on the Phalanx, that it is grounding out with water; is that true?

Admiral HOSTETTLER. I am thinking how to answer that. The fact of the matter is that we have launchers on ships at sea. Phalanx is a close-in weapon system made by General Dynamics in California. The problem that we had was on the carriers. Part of that was its location. It is difficult to mount these mounts so that you get good visibility and not tuck it under that flight deck. That flight deck needs to get washed down.

Second, during ops the crew is out there breaking open this equipment and maintaining it; it is a difficult problem in terms of environment on an aircraft carrier.

Now, the mount that came off the east coast aircraft carrier you are referring to was shipped back to General Dynamics and a team, not only from General Dynamics but also from the Navy, went out and spent 4 weeks solid in determining what fixes were required to seal out that mount in this tough environment.

I would like to report to you that I have seen the report that came out. I have looked at the mount. I think we are on our way.

Mr. BENNETT. One question about the Mark 48 production line. Is that line dropping now, and why?

Admiral HOSTETTLER. We are holding minimum production of the current round at the present time, Mr. Chairman. We expect to go to 144, 12 per month, which is the minimum economic buy until such time as the advanced capability MK-48 modification, which we call ADCAP, comes on the scene.

Here again, we have tried not to get too many that we will have to backfit.

Mr. Schafer. There were 144 in fiscal year 1982 on your chart?

Admiral Hostettler. Yes, sir.

Mr. Schafer. Why the drop in fiscal year 1983?

Captain Allen. The reason for the drop is a mark against the Navy's budget submission by Defense but prior to sending it over as the President's budget. The mark was based on the belief that a minimum production rate that we have established of 12 torpedoes per month could be maintained by procuring only 10 months' worth in fiscal 1983. That comes out to 120. We didn't agree with that.

Mr. Bennett. I understand. It does not sound very logical that you have money in here for 9-millimeter handguns, since nobody has agreed that is what we should have.

Admiral Hostettler. We are hoping that the Army will find the right handgun and we are off with it.

Mr. Bennett. I wonder how many people are killed with a handgun in the military? I would not think it is a large figure. Anyway, the correspondence I have gotten back about the 9 millimeter is that it is not likely to be procured ever, because it is not that good a gun. Apparently it is not as good a gun as what we already have. That is what the correspondence says. That is how I interpret the correspondence.

I was told they were not going to procure any. When I found some in here, it worried me. You probably are not going to get it.

[Discussion off the record.]

Mr. Bennett. It seems to me it is a moot question now, because they are not about to procure the 9 millimeter because of the defects that have been found.

On the Mark 46 modification kits, you kind of bandied that around with change orders, did you not? Did we lose out a little bit on that?

Mr. Schafer. As I understand, in fiscal year 1982 the request was for the completion of procurement of Mark 46 modification kits. This committee authorized it and funds were appropriated, although there were some reductions in appropriations associated with that line, but not specifically for the kit.

The question is, Why are you coming back now and asking for additional modification kits?

Admiral Hostettler. We did not get all those we hoped to get and we want to finish off that buy of those mod kits.

Mr. Kriser. I have conflicting reports, Captain Allen, about the Alpha-class submarine and speed of the torpedo. You indicated it is not just that you start off at the same place as the target submarine. You have to catch it in the process; so you have to have more speed. Is our Mark 46 torpedo fast enough to catch an Alpha-class submarine astern?

Captain Allen. I am not sure about the Mark 46 which we don't use in the submarines. [Deleted.]

Mr. Kriser. Do we have a new follow-on torpedo coming on?

Admiral Hostettler. [Deleted.]

Mr. Kriser. It will go down deeper also?

Admiral Hostettler. [Deleted.]

Mr. **Kriser**. Torpedoes that we have now can't go deep to catch it?

Admiral **Hostettler**. [Deleted.] To get back, in 1982 we were funded per kit sufficient in the numbers that you talked to. We were cut—I think it was—a HAC mark reduced that by $7.4 million for the torpedo and $17.9 million for the kits, and that equated to about 35 torpedoes and 182 kits.

Mr. **Bennett**. On Tuesday at 10 o'clock we will meet for the markup.

[The sealift hearing schedule for March 18, 1982 was canceled but the prepared statement of Vice Adm. Kent J. Carroll, USN, commander, Military Sealift Command, was provided for the record and is as follows:]

Biographical Sketch of Vice Adm. Kent J. Carroll

Vice Admiral Kent J. Carroll was born on August 22, 1926 in Newton, Iowa, and enlisted in the wartime V-12 program on February 10, 1944. He was commissioned on June 5, 1946, following graduation from the Naval Reserve Officer Training Corps program at the University of Notre Dame. He was promoted to Rear Admiral on August 1, 1974 and Vice Admiral on July 16, 1979.

His first assignment in 1944 was Main Battery Division Officer on the battleship USS *Mississippi* (BB 41). Vice Admiral Carroll then attended the Naval Gunfire Liaison School in Little Creek, Va. This specialized training was followed by four consecutive assignments as Naval Gunfire Liaison Officer for the Second Marine Division, attack transports USS *Noble* (APA 218) and *Okanogan* (APA 220), and the aircraft carrier USS *Kearsarge* (CVS 33).

In December 1949 Vice Admiral Carroll graduated from Submarine School. He spent the next five years in submarines serving aboard USS *Caiman* (SS 323) and *Sea Fox* (SS 406), which were based at Pearl Harbor. He spent 21 months in the Western Pacific during the Korean War.

After graduation from Naval Postgraduate School, Monterey, Calif., he was assigned to the Bureau of Naval Personnel in Washington, D.C. Vice Admiral Carroll then returned to submarine duty aboard USS *Sea Poacher* (SS 406) as executive officer. He qualified for command during this two-year assignment and was commanding officer of USS *Sablefish* (SS 303) until June 1962. He returned to the Submarine School as Director to the Basic Officers Department and in July 1965 become Aide and Flag Secretary of the Staff of Deputy Commander, Submarine Force, U.S. Atlantic Fleet. In August 1967 he took command of Submarine Division 81, New London, Conn., and a year later returned to Washington as Military Deputy of the Deputy Assistant Oceanographer for Ocean Science.

Vice Admiral Carroll was selected to become the first commanding officer of USS *Blue Ridge* (LCC 19), the first of her class and the largest and most sophisticated command ship ever commissioned. *Blue Ridge* was commissioned on November 14, 1970 at the Philadelphia Naval Shipyard. Vice Admiral Carroll took the ship around South America through the Strait of Magellan for her assignment to the Pacific Fleet. While in command of *Blue Ridge*, he served more than six months in the Western Pacific conducting numerous combat amphibious assault operations along the coast of Vietnam.

In August 1972 Vice Admiral Carroll took command of Amphibious Squadron 10 at Norfolk, Va., and the following June he reported as Chief of Staff to Commander Amphibious Force, Atlantic Fleet.

He assumed command of the Naval Inshore Warfare Command, Atlantic, in May 1974 and at the same time was assigned as Commander Task Force 65 in the Arab Republic of Egypt. For the next seven months he was responsible for coordinating the multi-national service efforts of Egyptian, United States, French and British forces participating in the removal of unexploded ordnance and ship salvage from the Suez Canal. His flagship, USS *Inchon* (LPH 12), was the first U.S. Navy warship to visit Alexandria, Egypt, in more than 12 years.

On July 2, 1975, he became the Commander, U.S. Naval Forces Marianas/Commander in Chief Pacific Representative Guam, Trust Territory of the Pacific Islands. During this tour, he was responsible for processing over 110,000 Southeast Asia refugees evacuated from South Vietnam through Guam to the United States and on to other countries. Vice Admiral Carroll also directed efforts to return over

1,500 Vietnamese repatriates to their homeland, accomplished by converting a Vietnamese cargo ship to accommodate the repatriates on their historic voyage back to South Vietnam on October 16, 1975.

Super typhoon Pamela struck Guam on May 21, 1976, packing winds of 125 knots and gusts to 150 knots devastating Guam's military and civilian communities. Vice Admiral Carroll organized and directed the disaster recovery effort involving local civilians, military personnel, and units of the U.S. Seventh Fleet, restoring Guam to near pre-typhoom conditions within a few weeks.

During his tour as Commander, U.S. Naval Forces Marianas, Vice Admiral Carroll was awarded a Presidential Citation for Humanitarian Service during the evacuation of South Vietnamese refugees from Vietnam during the fall of that country to the communists. He was additionally awarded the Navy League's John Paul Jones Award for inspirational leadership.

On September 6, 1977, Vice Admiral Carroll assumed the position of Deputy Director for Logistics (Strategic Mobility), Organization of the Joint Chiefs of Staff. He became Director for Logistics for the Joint Chiefs of Staff on July 1, 1979, and became Commander of the Navy's Military Sealift Command on July 29, 1981.

In addition to the Defense Distinguished Service Medal, he has the Navy Distinguished Service Medal and the Legion of Merit with two Gold Stars.

Admiral Carroll also received the Order of Merit, First Class, from Egyptian President Anwar Sadat for his part in Suez Canal clearance operations.

Vice Admiral Carroll is married to the former Betty M. Harrington, of South Bend, Ind. They have four children: Craig, Debra (Rollins), Lance and Maureen.

WRITTEN STATEMENT OF VICE ADM. KENT J. CARROLL, USN, COMMANDER, MILITARY SEALIFT COMMAND

Good morning, I very much appreciate the opportunity to testify before you today.

In my prepared statement I would like to focus on what our sealift capability is now and why we need increased capability. I also wish to discuss the programs Navy recently has initiated to help overcome our most pressing deficiency—the shortage of "near term" sealift—by "near term" I mean rapid sealift that can be counted upon for delivery of equipment in the initial weeks of any potential conflict. Navy as the single manager for all DOD oceanborne cargo has the responsibility of meeting this challenge. We are Defense's interface with the Merchant Marine.

Following my opening remarks, I am prepared to discuss with you, in closed session, the classified elements of sealift requirements versus capabilities.

Sealift plays a vital strategic mobility role in projecting and sustaining our Nation's fighting forces. In a large deployment, it would deliver armored and mechanized forces as well as support forces, resupply and ammunition.

All of our mobility programs consisting of a mix of military and civilian aircraft and ships augmented by pre-positioned unit and equipment supplies must be at full strength if we are to meet the long term goal outlined by Secretary of Defense Weinberger in the Defense 1983 budget: "To meet the demands of a worldwide war, including concurrent reinforcement of Europe, deployment to Southwest Asia and support in other potential areas of conflict." We have a long way to go before meeting this goal.

I see only two bright spots in the strategic mobility picture. We are very efficient in moving passengers or troops outside the continental United States by air and we are capable of moving the unit equipment and resupply from within the United States to airports or seaports of embarkation rapidly. Unfortunately, this is balanced by weak spots in our mobility posture. We lack heavy cargo airlift, our sealift programs are deficient across the board, and we need to develop the capability to offload in an objective way, marry up with troops and proceed to an objective area.

I recognized this during the four years I spent in the Organization of the Joint Chiefs of Staff. There we contemplated daily how to deploy our combat troops with their equipment, how to sustain this force anywhere in the world and how to accomplish this task if the whistle blew right this moment. All of our programs were based on finding the right mix of the elements of the strategic mobility triad of airlift, sealift and pre-positioned materiel, and time after time, in analyzing operational requirements it became clear that sealift would be crucial to the ultimate success or failure of any deployment. Sealift became an important player in a wide range of contingencies.

Before I go any further, I want to make it clear I am not demeaning the importance of airlift or the necessity for pre-positioning certain equipment and supplies in forward areas.

Each mobility program has a distinct role in meeting the overall requirement. Airlift is fast, flexible, and sometimes the only option available in the early stages of a contingency, but it is also expensive and has a limited capacity. Sealift can move large amounts of equipment and supplies, but lacks the speed and, therefore, some of the flexibility of airlift. Pre-positioning complements both airlift and sealift but is politically sensitive and less flexible. Maritime pre-positioning provides an alternative to land-based programs when political considerations or the need for flexibility constrain land-based pre-positioning.

However, both historical experience and our analyses of the future show that more than 90 percent of wartime cargo will go by sea, in merchant type ships, regardless of where the conflict is. Without this cargo, our fighting forces would not be able to sustain combat of any significant duration. The Chief of Naval Operations Admiral Hayward summed up the situation very succinctly this year: "Without adequate and reliable sealift, literally none of our military plans are executable." From the Department of Defense perspective, Navy is charged with the responsibility of ensuring that sealift is there when needed.

A strong and viable U.S. Merchant Marine remains an absolute prerequisite to the deployment of U.S. military forces in any significant quantity outside our continental boundaries.

However, it's no exaggeration to say we don't have a strong and healthy U.S. Merchant Marine today. We lack the capability to move our combat forces and their necessary support rapidly to any corner of the world. And it's no exaggeration to say that defense planners from the 1960's until recently pursued sealift with relentless apathy. Apathy was a dangerous course!

We are taking steps today to remedy decades of neglect of our sealift resources, but the question remains: "Why was it ever possible to underrate the value of sealift?" Several reasons come quickly to mind.

First, traditionally in past conflicts, a strong and healthy U.S. Merchant Marine was there for the asking. We had enough of the right kinds of ships for sealift and they were backed up by a substantial Reserve Fleet. There was no need for military strategists to plan or fund for merchant shipping that they might need in war—diversion of existing commercial shipping to contingency needs fulfilled requirements.

Second, over the last decade, we have concentrated in our planning almost exclusively on NATO and the defense of Western Europe, and that focus has been on the short war approach. That short war would consist of defending successfully against a massive Warsaw Pact surge in a few weeks. We have concentrated on the build-up of combat power in the early time frame of reinforcement. That has meant concentrating largely on airlift and pre-positioning and over the decade we have built up massive amounts of pre-positioned materials in Europe. The serious need for more U.S. sealift capability was further masked by NATO European allies having earmarked well over 600 cargo vessels specifically for NATO reinforcement by U.S. forces. These two facts and the underlying assumption that a NATO conflict will be a relatively short war have obscured the need for adequate sealift resources to meet contingencies elsewhere in the world.

However, in looking at the demands for force deployment and sustainability over the next decade, it is clear we cannot focus on any particular area of the world and say that it is the only area needing Navy, Marine, Army and Air Forces.

The forces we need are going to have to be flexible enough to meet projected needs in NATO, the Western Pacific, Middle, East, Southwest Asia-Persian Gulf area and wherever else the challenge comes from. General Maxwell Taylor, in a recent Washington Post article, discussed what he defines as force "task readiness", a measurement which specifically includes air-sea transportation capability to both deploy and sustain a force—a capability that concerns me.

In 1979, events in Southwest Asia proved the wisdom of abandoning our NATO-war-only thinking, and recently the region has been further unsettled by the assassination of Anwar Sadat. Sealift will be of critical importance in any Persian Gulf deployment. Sealift has received increased funding and attention.

There is no denying there has been a renaissance of sea power in this country recently—but it's been mainly on the Navy combatant side. More gray hull Navy combatants are being added to control the seas and protect our sea lines of communication (SLOC's). But during a major overseas contingency operation today, our own SLOC's might have to be filled largely by foreign flag ships. That doesn't make sense to me.

If the whistle blows this afternoon, do we have the requisite sealift resources to deploy and sustain our combat power outside the United States in support of national security objectives? I don't think so. Statistics paint a grim picture.

It is a sobering fact that during World War II more U.S. ships were sunk than there are in the entire U.S.-flag fleet today.

During the Korean War, an average of 400 dry cargo ships were employed to sustain the deployment, representing 17 percent of total U.S. assets. At that time, 2,400 dry cargo ships were available from the National Defense Reserve Fleet, U.S. flag fleet and MSC Controlled Fleet.

In Vietnam during 1967 the MSC Controlled Fleet numbered 511 ships, or 42 percent of U.S. total assets.

If a similar contingency occurred today in Southwest Asia requiring a sealift capability comparable to the Korean or Vietnam conflict, about 350 dry cargo ships would be needed—and that would represent 75 percent of today's total available sealift resources.

Navy can draw on four basic sources of sealift: the MSC Controlled Fleet, the National Defense Reserve Fleet, the U.S. Merchant Marine, and ships of foreign registry.

MSC Controlled Fleet ships are, of course, in-hand assets and available for both nonmobilization and mobilization scenarios. MSC nucleus ships are part of a Government fleet and manned by civilian mariners. Ships under MSC charter, of course, belong to civil industry and are manned by union crews. Militarily useful dry cargo ships in this fleet currently number about 35.

The second source is the National Defense Reserve Fleet, or NDRF, which is administered by the Maritime Administration. These ships will be available during mobilization, assuming that a national emergency would be declared. Total NDRF strength is currently about 170, including Ready Reserve Force ships, which I will discuss next. Briefly stated, NDRF ships represent a significant lift capability, although most of them are World War II Victory ships and which would not be on berth until the second and third month.

The Ready Reserve Force—RRF—represents a very fine, joint Navy/MARAD initiative to enhance sealift readiness. It is a special segment, or sub-set of the NDRF. Navy and MARAD started the program over four years ago to select and upgrade the best and most useful ships from the NDRF. This puts them in a 5-to-10 day readiness status for contingency use. RRF currently numbers 27 ships.

The U.S. Merchant Marine is by far the largest single source of strategic sealift. There are two specific mechanisms other than voluntary charters through which we can obtain the use of these assets: the Sealift Readiness Program and Requisitioning. Ships are obligated under the Sealift Readiness Program (SRP) if they receive construction or operating subisidies, or in return for carrying Department of Defense cargo during peacetime. SRP ships are intended for utilization where there is no national emergency or mobilization and they can be called up through joint agreement and action by the Secretaries of Transportation and Defense. There are about 160 dry cargo ships in the SRP.

Requisitioning or purchase of U.S. flag ships by the Secretary of Transportation is authorized in the Merchant Marine Act of 1936 whenever the President declares a national emergency or "proclaims that the security of the national defense makes it advisable."

The last source of sealift augmentation are foreign flag ships. Our European NATO allies have agreed to augment the U.S. flag initial lift capability with 400 European NATO cargo liners in a NATO mobilization situation. The Maritime Administration accomplished this for us through its participation in NATO's "Planning Board for Ocean Shipping" and MARAD maintains an up-to-date listing of these ships by name and type.

We also can draw upon the "Flag of Convenience" ships or ships of the "Effective U.S. Controlled Fleet." This category is limited to only ships registered in Panama, Liberia, and Honduras; they must be ships of companies that have more than 50 percent stock U.S.-owned, and they have an agreement with MARAD or war risk insurance as an inducement for return to U.S. control in time of war or a national emergency. They currently number about 70 militarily suitable ships. The vast majority are tankers.

Without a strong and healthy merchant marine and without a sizeable, relatively modern Reserve Fleet, the Defense Department has looked to other alternatives. For the first time we are procuring merchant ships in peacetime to fulfill wartime emergency requirements.

MSC is involved in three major enhancement sealift programs to support Marine Corps, Air Force, and Army deployments anywhere in the world. These programs are: an expanded Near Term Pre-positioned Force (NTPF) in the Indian Ocean; a rapid reinforcement package of eight 33-knot SL-7s, and a maritime pre-positioned ship (MPS) package. Ships in these programs are or will be chartered or purchased from the U.S. Merchant Marine, manned by civilians, and will be operated by private contractors. Cargo carried by these ships will help meet a deployment's immediate requirements for the first month or so of a contingency and considerably reduce the response time of our sealift forces. I'd like to give you a few details about each program.

Today we have one example of maritime pre-positioning in existence—the NTPF in the Indian Ocean. This program greatly reduces response time to the region and provides a test for larger maritime pre-positioning efforts. Thirteen chartered merchant ships with civilian crews are on station in the Indian Ocean loaded with enough equipment and supplies to support a brigade sized Marine Air Ground Task Force (MAGTF), of about 12,000 troops, for about 30 days plus selected sustaining supplies for Air Force and Army units. The force was expanded from seven to thirteen ships during the past year but is essentially an interim measure only.

Over the next five years we plan to replace the NTPF with an expanded Maritime Pre-positioned Ship Program.

We are working on a program to pre-position at sea selected unit equipment and supplies of three brigade sized MAGTFS—that's about 45,000 troops. Marines would be airlifted to the trouble spot, marry up with the equipment pre-positioned at sea, and then proceed to the objective area. This would be one way around the staggering logistics problem of rapidly supplying and sustaining combat forces deployed far from home in areas where they have little or no pre-positioned materials on land or assurance of host nation support.

Originally we planned to acquire 12 TAKX—multipurpose ships able to carry diverse cargo ranging from containers, breakbulk, and ro-ro cargo—through a combination of new construction and conversion but budget constraints required us to look at other alternatives. As a result we are pursuing a convert and charter alternative. It is an initially cheaper alternative but still will allow us to stick to our schedule for full implementation of the MPS concept. We hope to have the required ships for all these MAB's under charter by fiscal year 1986.

Navy has issued a Request for Proposals (RFP) for MPS ships that calls for construction or conversion of existing ships in U.S. shipyards to ro-ro configuration and then subsequent time charter to MSC. Up to 15 ships may be chartered for up to 25 years with the first group of ships tendered for charter in fiscal year 1984. Charter rates will cover cost of conversion plus a reasonable profit for owners.

The third program I mentioned was the SL-7 conversion or Fast Sealift Program. The Navy recently purchased six large containerships from Sea-land, the SL-7s, and later this year we will purchase two more for a total of eight. The purchase of this eight-ship package was authorized and appropriated by the Congress in fiscal years 1981 and 1982. These 33-knot ships can carry tremendous amounts of cargo and after conversion to ro-ro configuration will be able to load or off-load in one day the majority of the unit equipment (tanks, artillery, wheeled vehicles, etc.) needed for two Army heavy mechanized or armored divisions.

We anticipate awarding contracts for four SL-7 conversions this fall to or perhaps three shipyards, and hopefully the remaining four SL-7s will be converted in 1983. Each complete conversion of an SL-7 to ro-ro configuration will generate about $75 million worth of business for the U.S. shipbuilding industry.

These ships are the fastest merchant ships in the U.S. Flag Fleet and give us tremendous flexibility. They can sail to Europe from the U.S. East Coast in four days or the Persian Gulf in about 11 days via the Suez Canal.

The addition, a 12-ship augmentation for the SL-7 Fast Sealift Program is planned. These ships will also be ro-ro's and capable of deploying two additional Army divisions.

MSC is involved in yet another program to support an overseas deployment of U.S. forces. Navy has been interested in acquiring seabased medical facilities for some time. MSC is now embarked on a program to convert and acquire hospital ships to support deployed forces. A design phase for these critical ships has been initiated and we expect to award a contract for the conversion and outfitting of the first hospital ship in fiscal year 1983.

In addition to these programs, MSC is steadily upgrading and expanding its nucleus fleet. Nucleus fleet ships form the very core of our immediate response capability and represent both government owned ships and merchant ships under long-term charter. All are manned by civilian crews, many of them Civil Service mariners. Fleet modernization programs include a build and charter program for five new 25,000-30,000 tankers (T-5s) and new MSC ship construction. Navy's increased recognition of the importance of sealift is reflected in the 1982 budget. Nine of the 22 Navy ships marked for new construction will go to MSC for operation. If you add in the oilers which are being built under the build and charter program, Navy is constructing 27 ships, of which more than 50 percent will go to MSC.

Finally, heavy maritime industry emphasis on containerization has increased productivity but it has also increased dependence on modernized port facilities for both loading and discharge. Deployments to comparatively undeveloped discharge areas or through damaged ports dictate the development of programs to support the offload of containerships and the discharge of breakbulk cargo and POL.

Navy is developing a heavy lift crane and cargo ship combination—or Temporary Container Discharge Facility (TCDF) to offload non-self-sustaining containerships. The figure of $71.0 million for TCDF is included for the period fiscal years 1982-1988 but this is still underfunded.

All of the sealift programs I have mentioned so far translate into business for the U.S. maritime industry. In fact, they could amount to more than $15.9 billion in revenue to the maritime industry between now and fiscal year 1986. This includes $5.5 billion in new MSC ship construction, $1.2 billion in anticipated construction and conversion activity financed by the private sector in response to MSC charter programs, and $9.2 billion in industrial fund expenditures for operation and maintenance of the MSC Controlled Fleet.

As long as we are discussing statistics, I would like to show you some rather striking figures that illustrate the expansion of MSC's activities in wartime. I personally don't know of a military organization that expands as much as MSC does in a mobilization.

Ships under our control will jump from approximately 144 in peacetime to over 1,100 subsequent to full mobilization—that's more than double the number of Navy commissioned Men of War.

Personnel will swell from a peacetime worldwide workforce of over 9,000 to a wartime figure of over 90,000, and five Reserve flag officers will be ordered to active duty in key MSC positions around the world along with more than 6,000 enlisted personnel. The flag officers assigned to MSC mobilization billets represent one-third of the total surface Naval Reserve flag officers in the Navy.

Over the last year and a half, there has been a major effort within Defense to enhance our ability to deploy and sustain forces. As a reflection of the importance of sealift in this effort, last year MSC was upgraded to a 3-star command, a 2-star deputy was added and the MSC/NCSORG Naval Reserve Programs were dramatically expanded in both number of units and personnel by nearly 50 percent.

Even more telling has been the increased funding for programs to increase our nation's sealift capability. During fiscal years 1982-1986, Navy funding for sealift initiatives which will be operated by MSC is at a level 300 percent higher than five years ago. I feel confident that sealift has now taken its rightful place of importance in strategic mobility planning. Sealift is no longer a neglected stepchild.

Mr. **Bennett**. I appreciate very much your having been here. Thank you.

[Whereupon, at 3:05 p.m., the subcommittee was adjourned.]

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